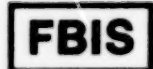


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17 NOVEMBER 1986

USSR Report

NATIONAL ECONOMY



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17 NOVEMBER 1986

USSR REPORT

NATIONAL ECONOMY

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ECONOMIC POLICY, ORGANIZATION, MANAGEMENT

GOSPLAN OFFICIAL ON PRODUCTION RESTRUCTURING

Moscow EKONOMICHESKAYA GAZETA in Russian No 14, Mar 86 pp 2, 4

[Article by Yu. Frolov, department deputy chief, USSR Gosplan, under rubric "Problems of Acceleration": "Production Restructuring"]

[Text] An active structural policy is a typical feature of the party's present-day economic strategy. Proceeding from the concept of accelerating the country's socioeconomic development, the documents of the 27th CPSU Congress have defined the principles, key areas, and final goals of the profound structural changes in the national economy.

Selection of the priority branches and formation of the interbranch and intrabranh proportions are dictated by the need to give high dynamism to the development of the national economy, to guarantee intensification along the entire front, and to intensify the social orientation of the economy. From these positions one of the fundamental lines in the structural shifts is the outstripping growth of the processing branches of industry as compared with the fuel and raw-material branches.

Directedness Toward the Final Result

In the 12th Five-Year Plan, in conformity with the Basic Directions, the tasks include increasing the volume of production of output in the processing branches by 25-28 percent, with an increase in the production of output in the fuel and raw-materials branches by 11-13 percent. According to computations that have been made, this will make it possible to increase the share of the processing branches in industrial output from 75.1 percent to 77.3 percent. Correspondingly, the share of the fuel and raw-material branches will drop during the five-year period from 24.9 to 22.7 percent.

This change in the structure of the national economy reflects well the differentiating peculiarity of the present-day structural policy -- the priority nature of the branches involved in the production of a final product: machinery and equipment, consumer goods, finished construction projects. As a result it becomes possible to increase the return on the funds being channeled into developing the production of fuel, energy, raw materials, and semifinished goods. Whereas in the 11th Five-Year Plan every ruble of increase in output in the fuel and raw-materials branches provided the

opportunity to receive 5.7 rubles of increase of production of output in the processing branches, in the 12th Five-Year Plan that figure will be 6.3 rubles.

The planned correlation in the development of these branches makes it possible to improve the dynamics of the most important indicators of the effectiveness of social production, inasmuch as, in the fuel and raw-materials sector of the economy, the specific expenditures of the most important resources per unit of output are higher than the average for industry as a whole.

A New Approach to Resource Conservation

The structural shifts in the economy are broad in nature and encompass such large-scale interbranch complexes, for example, as the machine-building, fuel and energy, and structural materials complexes. In each of them, in turn, one notes the active reorganization of the branch and intrabrand proportions for purposes of improving the quality of the output and the effectiveness of production. This situation considerably intensifies the effective interaction among the interbranch complexes and the branches included in them.

It is precisely on this basis, in the course of the restructuring of the national economy, that one will see the implementation of a fundamentally new approach to satisfying the needs for material resources. Something that is becoming the basic source that makes it possible to satisfy the increase in the needs for fuel, energy, raw materials, metal, and other materials is resource conservation. By means of this source, in the 12th Five-Year Plan it is planned to guarantee 60-65 percent of the increase in the needs for the most important resources. For example, no less than 70 percent of the increase in the needs for output of ferrous metallurgy, and 64 percent for organic fuel. For these purposes, in machine building, the resource-conserving types of technology are receiving the priority, and the production of progressive and economical structural materials to produce them is being increased.

As a result, the saving of material expenditures for the national economy as a whole in 1990 will double. This scope of resource conservation is completely unprecedented in our management practice. And in order to achieve it, in addition to reorganizing investment and structural policy, it is necessary to make complete use of the opportunities provided by the economic mechanism and to intensify economic measures in all areas of the national economy.

Emphasis on Quality and Effectiveness

The structural changes largely form a new quality of economic growth. Their essence lies primarily in the transfer of the attention from the quantitative indicators to quality and effectiveness. Another very important requirement of the present-day strategy of economic growth lies in assuring that every percentage of growth is backed up by qualitatively new, effective output with high consumer properties. This output is needed by the national economy and the public.

The qualitative improvement of the proportions in the branches of the fuel and energy complex is reflected in the progressive changes in the structure of the fuel and energy balance sheet. Thus, the share of petroleum and gas condensate in the primary fuel and energy resources must be reduced from 39 percent in 1985 to 35 percent in 1990, and coal, from 20 to 18 percent. Practically the entire increase in extraction in the coal industry will have to be obtained by the most economical open-pit method. It is planned to increase the share of natural gas in the primary fuel and energy resources from 34 to 38 percent. There will also be an increase in the share of electric and thermoelectric energy produced by nuclear power and heat stations, and the electric energy produced by hydroelectric power stations, from 6 percent in 1985 to 8 percent in 1990.

The changes in ferrous metallurgy can serve as a brilliant example of a structural shift in the production of output which provides a considerable economic benefit in the consuming branches. In the structure of production of finished rolled metal, the share of its effective types will increase from 36.6 percent in 1985 to 47.3 percent in 1990, including rolled metal from light-alloy steel, from 14.4 to 17.7 percent and heat-hardened rolled metal, from 8.2 to 13.1 percent. The savings in ferrous metals in the national economy as a result of increasing the production of economical types of metal output and metal with increased strength features should be 6.5 million tons in 1990, as compared with 1985. This is 1.5 times more than in the 11th Five-Year Plan.

A task that has been posed is, with an increase during the five-year period in the production of finished rolled ferrous metals by only 9 percent, the guaranteeing of an increase in total industrial production by 21-24 percent, and in machine building and metal working, by 40-45 percent.

The outstripping development of progressive, economical types of output is also typical of other branches in the structural materials complex. For example, it is planned to increase the production of synthetic resins and plastics during the five-year period by 41 percent. With an increase of 14 percent in the production of commercial timber, the production of wood-shaving panels will increase by 35 percent; plywood, by 24 percent; wood-fiber panels, by 22 percent; and cardboard, by 36 percent.

Active Renovation of Assets

The factor that is becoming the determining one in the formation of new interbranch and intrabranh proportions is not the further buildup of production assets, but primarily their renovation.

Considerably amounts of money are being allocated for the development of the fuel and energy complex and the structural materials complex. Capital investments during the five-year plan will increase by approximately 40 percent. This volume of resources is necessary in order to eliminate the shortcomings and omissions that have accumulated in recent time in the development of those branches, as well as eliminating the lack of unification of production capacities, the lagging behind of the raw-materials and ore base, and the large amount of assets wear and tear. It is also necessary to

take into consideration the worsening of the geological-mining conditions when extracting natural resources, and the need to assimilate new deposits and to create capacities for a number of priority branches and production entities.

In the capital-investments structure there has been an increase in the share of the funds channeled into technical re-equipping and remodeling. In ferrous metallurgy this share is approximately 49 percent; in nonferrous metallurgy, more than 50 percent; in the timber, woodworking, and woodpulp and paper industry, 45 percent; and in the building materials industry, 46 percent. This reorganization of the investment policy will make it possible to increase the rates of renovation of fixed assets and to accelerate the withdrawal of worn-out and obsolescent equipment. For the raw material branches, it is planned to increase the coefficient of renovation of fixed assets by almost 36 percent. The rates of withdrawal of fixed assets in the 12th Five-Year Plan will increase by a factor of 1.7 as compared with the 11th Five-Year Plan.

The technical re-equipping of production, the broad introduction of progressive base technological schemes, and the use of new-generation technology constitute the basis of the development of the branches in the fuel and energy complex and the structural materials complex. In ferrous metallurgy, for example, there has been a sharp increase in the volumes of steel smelting in oxygen converters and electric furnaces, and the continuous casting of steel.

For the structural materials complex as a whole, by means of introducing the achievements of scientific-technical progress, it is planned to almost double the production of output in the highest quality category.

Thus, the structural policy is aimed at forming a structure in the national economy that completely corresponds to social needs, that guarantees the dynamism, balanced state, and high effectiveness of the reproduction processes. It is also a matter of intensifying the ability of the national economy to reorganize itself flexibly and promptly in conformity with the progressive shifts in science, technology, and technological schemes, and in social and individual needs.

Priorities and Resources

A differentiating feature of the fundamental structural shifts in the national economy in the forthcoming period is the selection of a broad group of priorities. The opportunities for doing this are determined both by the achieved scope and level of development of the national economy, and by the economic situation that will develop in the course of the acceleration itself.

The large-scale structural maneuvering in the economy is reinforced in the start-up period by a change in the proportions that have developed in the distribution of the national income: there is an increase in the share of the savings fund in the 12th Five-Year Plan. But the most important thing is that, in the process of acceleration on the basis of intensification of production, it will be necessary to guarantee an ever-intensified increase in effectiveness, which the structural changes are supposed to promote. The carrying out of the structural reorganization, the active course aimed at

resource conservation, and the technical re-equipping of production will make it possible to reduce, by the end of the century, the energy-intensity of the national income by a factor of at least 1.4 and to reduce metal-intensity by almost one-half. All this makes it possible to concentrate considerable financial, labor, and material resources in the priority sectors.

In implementing the planned measures, much depends upon the initiative of the workers in the ministries and the labor collectives of associations and enterprises. For example, under the new management conditions a large volume of operations in the technical re-equipping and renovation of production will have to be fulfilled by drawing on the money in the production development fund, and by using the in-house method. The precise preparation and carrying out of these operations will decisively determine the effectiveness of the capital investments and the periods of time required to repay them.

In the five-year plan there will be a sharp reduction in the number of natural indicators for the production of output which are to be approved for the ministries. This increases their responsibility for balancing the production and consumption of output.

An active structural policy makes new requirements on the substantiation of the plans for developing the branches with a consideration of the interchangeability and effectiveness of the output. An important role here belongs to the balance-sheet methods of planning, the role of which at the level of the branches and enterprises should be considerably increased. There has been an increase also in the importance of alternate studies concerning their annual planning indicators, proceeding from the assignments of the five-year plan and the evaluation of the national-economic effectiveness of the technical and economic decisions that are being made with regard to production restructuring.

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AGRICULTURE, POLICY, ORGANIZATION

UDC 34:63

ROLE OF SOVIET LAW IN IMPROVING APK ECONOMIC MECHANISM

Moscow VESTNIK SELSKOKHOZYAYSTVENNOY NAUKI in Russian No 8, Aug 86 pp 3-11

[Article by M.I. Kozyr and M.I. Palladina, doctors of legal sciences, Institute of the State and Law of the USSR Academy of Sciences: "Legal Support for the Economic Mechanism of the APK"/

[Text] In the decree of the CPSU Central Committee and USSR Council of Ministers entitled "Further Improvements in the Economic Mechanism for Management in the Country's Agroindustrial Complex," it is stated that implementation of the tasks assigned by the 27th CPSU Congress for accelerating the economic development of the USSR requires decisive advances in the work being performed by enterprises and organizations of the agroindustrial complex. The implementation during the 12th Five-Year Plan of the complex of mutually associated measures called for in the decree is recognized as necessary. This includes an improvement in the economic mechanism for management, the extensive introduction of new methods for planning and economic stimulation based upon progressive norms, an expansion of the rights of kolkhozes, sovkhoses and other APK [agroindustrial complex] enterprises and organizations in solving economic problems, an increase in the interest and responsibility of labor collectives and all administrative elements in production intensification and the extensive use of scientific and technical achievements in the interest of achieving high final results. In conformity with the decree, USSR Gosagroprom, with the participation of the interested USSR ministries and departments and the union republic councils of ministers, must expand and intensify the all-round economic experiments aimed at improving the system for the administration, planning, financing and stimulation of agroindustrial production.

In this regard, definite interest is being displayed in an article by R.A. Vedernikova, A.F. Kononenko, T.N. Konovalovoy and V.A. Matusevich entitled "Systematic Improvements in the Economic Mechanism of the APK During An Economic Experiment," published in the form of a discussion in the journal VESTNIK SELSKOKHOZYAYSTVENNOY NAUKI (Issue No. 3, 1986). In this article, which we consider to be extremely vital and interesting, the attention of the readers is truly focused on the axiomatic and basic premise that "when developing recommendations for improving the economic mechanism of the APK, only a systematic and all-round approach which takes into account the mutual character of the relationships between all of its elements is possible. This signifies, in particular, that the measures for improving the economic mechanism

must not be developed in the form of a "summary of recommendations." A starting point is the creation of the complete concept for improving the APK economic mechanism, one which contains a theoretical model for an effective economic mechanism and a strategy for reorganizing the existing mechanism "

One must necessarily agree with the fact that isolated measures, even correct and necessary ones, cannot produce the desired results. An evaluation of economic experiments carried out in the APK for a number of regions throughout the country, including one for improving the economic mechanism, experiments which describe an uncoordinated and unilateral trend, is correct in this regard. Researchers are advancing the task for ensuring that an "experimentally worked object receives the rights and stimuli for development in accordance with all of the trends for improving the economic mechanism. Such experience can be circulated and its results can truly be of assistance in evaluating the consequences of the overall reorganization" [3].

The authors prefaced the concept developed by them during the course of a practical-scientific study with a statement on the methods for improving the economic mechanism within the framework of a rayon APK: expanding economic independence at all levels of a rayon element, raising economic responsibility for operational results and coordinating the economic interests of a worker, an enterprise and the state. The implementation of this concept during the course of new economic experiments which were started in some agroindustrial associations of the RSFSR on 1 January 1986 will be of important theoretical and practical value.

The principal tasks formulated in the article for improving the economic mechanism, which consistently derive from the concept reported above, are of interest. Properly speaking, these are not tasks for improving the economic mechanism but, more accurately, they are goals for the experimental development of the elements of this mechanism.

A number of theoretical-practical approaches for achieving the mentioned goals are deserving of attention. However, by no means are the approaches mentioned in the article beyond question. It is our opinion that some of them have been discussed too schematically, not always convincingly and at times out of touch with reality.

The researchers succeeded in avoiding the rather widespread contrasting of the economic and administrative (legal) methods of control, although the mechanism of their correct combination is not revealed in the article. It is stated correctly that "by no means have the recommendations included in governmental decrees been carried out fully or in all areas. The petty support of enterprises and planning 'from above' for the amounts and structure of sowing areas, number of livestock and others are still continuing at the present time " [4].

However, it cannot be stated that the role played by Soviet law in improving the economic mechanism in the country's APK and that checked on an experimental basis in a number of RAPO's in the RSFSR and other union republics has been fully taken into account in the article. Yes, it would be impossible to do this in just one journal publication dedicated to many mainly socio-economic

aspects concerned with improving the economic mechanism in the APK. Thus, by way of a discussion of the concepts set forth by the authors, we are attempting not only to express our considerations concerning its content but also to provide an analysis of the urgent legal questions associated with the functioning of the economic mechanism in the APK.

Obviously, the complex's economic and social problems in the rural areas are being solved mainly by political, economic, ideological and social means. But there are also other important means which must be actively included in solving these problems -- legal means. In the new wording of the CPSU Program, emphasis is placed upon the fact that the party has been and is continuing to devote constant attention to strengthening the legal foundations for state and social life and to the firm observance of socialist legality and law and order. Soviet law must promote the development of economic relationships in the APK, regulate them, strengthen the organizational structure for all APK elements, define the tasks, functions and competence of the organs tasked with administering them and establish the principal parameters for the economic mechanism in the APK and its functioning.

Any document of an organ of administration, if the relationships controlled by it fall, for example, within the zone of influence of the law of value, must take into account the objective requirements of this law. At the same time, in order to place economic levers in operation they must be legally averaged out: sanctioned by state authority and reinforced in the legal norms. In the process, an optimum combination of administrative and economic control methods must be maintained and the peculiarities of those relationships influenced by the organ of administration taken into account. One can only agree with the conclusion drawn by eminent economists that "the economic levers and stimuli in the APK are still operating only weakly. Here the new organs must bring about a change for the better" [1].

In recent years, especially following adoption of the Food Program, a great deal has been accomplished in improving agricultural legislation. During the 1982-1984 period alone, more than 50 all-union normative documents were adopted for regulating various aspects of APK functioning and implementation of the Food Program. They are aimed at achieving a correct combination of centralized agricultural management and the development of economic independence for enterprises and organizations and eliminating excessive petty support for the farms, their leaders and specialists. They have been legally assigned basically new principles for the economic relationships of kolkhozes, sovkhoses and other agricultural enterprises with their APK partners and their material interest and responsibility for achieving high and quality results in their final production activities have been raised. At the same time, practical experience testifies to the fact that legal control over the organization and activities of agricultural enterprises and the APK is on the whole lagging behind the requirements for social development.

In this regard, solutions are required for three basic mutually related tasks. This includes, first of all, an improvement in that legislation which defines the legal status of agricultural and agroindustrial enterprises and associations and the legal status of APK organs of administration; secondly, an improvement in the administrative style and methods in the APK; thirdly, an improvement in

legally acceptable activities, the shortcomings of which are explained to a considerable degree by violations of the established order for planning the development of agricultural production, the slow mastering of zonal scientifically sound farm management systems and weak control by the local soviets and RAPO's over the maintenance of sound relationships among APK partners.

The limits imposed for this article preclude the possibility of discussing in detail these most important questions. We will note merely that an improvement in agricultural legislation, the elimination of multiplicity in the normative documents which often duplicate one another and, at the same time, overcoming deficiencies in the legal regulation of a number of new social relationships, which are developing based upon a strengthening of regional, republic and all-union APK's, will create a strong legal base for introducing the achievements of scientific-technical progress into agricultural production and the successful functioning of all elements of the APK. And this in turn will make it possible to carry out the requirements of the new wording of the CPSU Program and the Basic Directions for the Economic and Social Development of the USSR During the 1986-1990 Period and for the Period Up To the Year 2000, with regard to approving the socialist style of management, strengthening socialist legality and prohibiting unjustified regulation of the economic activities of the primary elements of the APK -- kolkhozes, sovkhoses and organizations and associations which are partners of agricultural enterprises.

For the successful utilization of the new organizational opportunities for developing agriculture and the entire APK, conditioned by the creation and functioning of the RAPO's and the USSR Gosagroprom system, economic independence must be strengthened in every possible way and the initiative of the principal production units in the rural areas -- kolkhozes, sovkhoses and other agricultural and agro-industrial enterprises and associations -- must be developed, as mentioned quite correctly in the article under review. This requires that their legal status be made to conform, as rapidly as possible, with the modern conditions for management. Specifically we have in mind the development and adoption of a kolkhoz law, statutes governing sovkhoses and other agricultural enterprises and also statutes covering agroindustrial enterprises and production agroindustrial associations. This vital problem has been raised repeatedly on the pages of the press [4].

Distinct from the Model Regulations for a Kolkhoz, which regulates mainly the intra-kolkhoz relationships, a kolkhoz law would ideally codify the legal norms which define mainly the external relationships of kolkhozes. The regulation of these relationships still remains uncoordinated, there is not a uniform and level basis and quite often it is dictated by conflicting departmental interests. Consequently an unjustified discord continues in the legal regulation of similar property relationships of kolkhozes. In addition, the action of numerous legislative and other normative documents which regulate the property relationships of kolkhozes inhibits and complicates their use in practical work. Thus ideally the normative documents which are issued on a centralized basis and which define the property relationships of kolkhozes should in turn be based upon uniform legal statutes.

The adoption of the kolkhoz law will legally validate the organizational-economic independence of kolkhozes as established during the 27th CPSU Congress,

it will strengthen the democratic principles involved in their administration and it will protect their property and other rights and interests. The adoption of the law will aid in decisively eliminating administration and petty support as they pertain to kolkhozes, which together with sovkhoses constitute the foundation for all agricultural production.

Improvements are needed in the legislation which controls the production-economic activities of sovkhoses and other state agricultural enterprises. The principal normative document for determining their legal status -- the Statute on a Socialist State Production Enterprise (1965) -- does not take into account their specifics as agricultural enterprises, nor the peculiarities of their legal status during this modern stage, nor the processes of agroindustrial integration. In particular, the rights and obligations of sovkhoses with regard to the rational use and protection of the land assigned to them, as the chief means of production in agriculture, are not defined in the statute and no consideration is given to the specifics and peculiarities associated with the organization, protection and wages for labor in agriculture, which differ from those in industry in terms of the system for production planning, the peculiarities of logistical support and the sale of products. The conversion of sovkhoses over to complete cost accounting will strengthen even more the specifics of their legal status. Thus it is our opinion that the development of a statute for a state agricultural enterprise (sovkhos) must involve a number of urgent measures aimed at improving the legal regulation of agriculture.

The legal status of agro-industrial enterprises has still not been properly defined, although they appear as a type of socialist enterprise in which agricultural and industrial production are combined in organic synthesis. A special statute for an agro-industrial enterprise could become an important factor for stabilizing and strengthening this form of agroindustrial integration. A need has arisen for developing permanent statutes for branch production agro-industrial associations.

The clear establishment in legislation of the totality of rights and responsibilities required for enterprises and associations in agriculture and the APK as a whole, for carrying out their tasks and functions, is the legal base which allows them to carry out their normal, rational and economically effective production-economic and financial activities.

Equally important is the fact that such legal documents ensure socialist legality throughout all of this complicated and varied activity. Appropriate guarantees for implementing the rights extended to these enterprises and strengthening their independence must obviously be observed. One urgent task associated with improving legal support for the economic mechanism in the APK is that of improving the legal status of the principal production elements of the APK.

Certainly, an improvement in the legal status of the mentioned enterprises and associations must be founded upon a solid scientific base. And towards this end it will be necessary to strengthen and intensify the economic and legal scientific developments and improve the coordination of the work of economic and legal scientific institutes in economic and legal problems associated with development of the agroindustrial complex.

The authors of the article under review are boldly establishing the complicated task of carrying out the hierarchical principle of planning for the final results. Yet the problem has only been established. The means for solving it at the agroindustrial (onlast APK) level have not been furnished. This is understandable since the principle of balanced planning, involving the use of economic norms which provide the basis for solving the established task, must be carried out vertically with regard to the relationships of the organs of administration engaged in planning. Meanwhile, logistical support for the production of agricultural products throughout the country as a whole by no means is in keeping with the requirements. The requirement for raising the responsibility of these agencies and the union ministries and departments, for balance in the plans and state plans for the economic and social development of the USSR, as outlined for in the decree of the CPSU Central Committee and the USSR Council of Ministers entitled "Improvements in planning and Intensifying the Effect of the Economic Mechanism With Regard To Raising Production Efficiency and the Quality of Work" (1979), remains unfulfilled.

What do the authors of the article propose for carrying out the hierarchical principle in planning for the final results? The conversion over to a non-centralized system of relationships as a unified legal form for carrying out a plan. Let us have in mind the non-directive nature of all plan indicators both at the top from top to bottom and the role they play as the basis for contracts between enterprises and a higher organ of administration. The concept for handling the problem, albeit with certain nuances, is being developed in other publications. Thus the well known economist and Corresponding Member of the USSR Academy of Sciences P. Bunich, in developing his concept of self-planning for enterprises on the basis of contracts, writes in "Economics" (1979): "As I see it, the solution lies in centralized planning stressing economic features. At the present time, its administrative nature is still dominant. Ideally, the "plan-order" concept should be introduced in the future. In his opinion, we are discussing a completely new form of economic relations between society and individual collectives. The combining of an administrative force with economic advantage. It is a method for introducing the interests of an enterprise into the channel of economic planning."

The author's proposal concerning the correctness of handling the problem in this manner will previously be provided by an experimental check carried out on the effectiveness of this approach in planning in a number of regional APK's.

The progressive statutes of the decree entitled "Further Improvements in the Economic Mechanism for Management in the Country's Agroindustrial Complex" will undoubtedly have an effect with regard to improved planning within the APK. Planning at the enterprise level must now be carried out based upon control figures made available in the established manner for purchases of agricultural products, capital investment limits and deliveries of the principal types of material resources, which are determined according to norms which take into account an economic evaluation of the land and the availability of fixed investments, capital and labor and other resources. Let us assume that the planning principles retain their importance during the next five-year plan. The consistent implementation of these principles for planning agricultural production, as revealed by experience already available in some regions of the country, requires a continuation in the extensive and thorough scientific-practical development of economic and legal problems associated with normative planning and the legal consolidation of appropriate decisions.

In this regard, the completion of all of this work in the form of a new all-union normative document for improving planning in the APK is considered to be extremely advisable. A proper combination of administrative control methods with economic methods should be defined in the new document; this will open up a broad expanse for the development and use of economic levers in the APK. Objective economic criteria and principles for planning, for proportional and balanced development of APK branches, for organizing their efficient interaction in the interest of increasing the production of goods, for improving the preservation of these goods and for transporting, processing and delivering them to the consumer should be legally consolidated in this document. Here the types and limits of responsibility for violations of the established order for planning by agroprom organs or by officials and also for unjustified changes in the planning indicators made available to the farms must be clearly defined. Such a normative document will serve as a fine legal base for improving legal regulation of the entire complicated totality of planned relationships within the APK framework. It will also be possible to establish in this document the scientifically sound priorities of the agricultural enterprises among other APK participants.

The economic contract is expected to play a considerable role in improving the economic mechanism in the APK. The range of contractual relationships of agricultural enterprises has expanded substantially and it will obviously increase in the future. New contracts have appeared which were not known earlier to civil legislation -- contracts for inter-farm activity, contracts with citizens for the fattening on private plots of livestock and poultry belonging to kolkhozes and sovkhozes and so forth. In order to improve the contractual relationships of agricultural enterprises and associations with other APK participants, they must be legally regulated in an efficient manner and the departmental approach must be overcome.

For example, an improvement must be achieved in the legal regulation of contractual relationships in the sphere of state purchases of agricultural products. Its effectiveness could be raised through the development and adoption of a law governing state purchases of agricultural products. Such a law, which would regulate the principal problems of procurements, will serve also as a fine legal base for the new statute on the system for concluding and carrying out contractual agreements for agricultural products. In order to raise the importance of the new statute, it ideally should be approved by a decree of the USSR Council of Ministers (the presently active 1983 statute was approved by the former USSR Ministry of Procurements jointly with the former USSR Ministry of Agriculture).

The economic contract, which legally establishes the equality of the parties involved and their mutual property responsibility for non-observance of the contractual obligations, must become an effective economic and legal instrument for ensuring strict observance of the principle of equivalence during commodity-money exchanges and when evaluating the level of services for various elements of the agroindustrial complex. Moreover, under modern conditions a contract is becoming more and more a regulator for agricultural production.

As is known, a contract is the principal document for defining the rights and obligations of the parties involved. The non-fulfillment of contractual

obligations is viewed as a violation of state discipline and associations and farms which commit such violations are subject to property responsibility. The sanctions called for by existing legislation or a contract, for violations of contractual obligations, are applied on a mandatory basis.

Measures are presently being undertaken aimed at raising the quality and legal importance of standard and model contracts developed within the agroindustrial complex. Legal services are in need of substantial improvements. The establishment of a unified system for resolving pre-contractual and economic property disputes in the APK is deserving of special attention.

The theoretical working out of those problems concerned with economic contracts and their effectiveness within the APK framework is being intensified. This applies in particular to summarizing accumulated experience in improving legal regulation of contractual relationships in the sphere of inter-farm cooperation and agroindustrial integration and also new types of contracts.

The authors of the article mention in a timely manner the need for raising responsibility for operational results at various levels and yet they cite only the contours for the overall complicated problem. This is also fully explainable. The term economic responsibility, which is widely discussed in economic literature and used in operational practice, is understood first of all to include all types of legal material responsibility. The category of responsibility in administrative relationships (vertically) is still weakly developed from a theoretical standpoint and not reinforced in legislation. In the article, responsibility in contractual relationships among enterprises (horizontal relationships), which is rather completely regulated by the norms for soviet civil law, is intertwined with responsibility in administrative relationships vertically. Moreover, even in the legal science proper, a completed legal model for responsibility in administrative relationships vertically has still not been created. However, it is obvious that the recommendation for reimbursement for losses inflicted upon an enterprise by an illegal task assigned by a higher organ is unrealistic, since this organ does not have (and cannot have) at its disposal the property and monetary means required for this. We cannot agree with the recommendation which calls for the RAPO councils and the agroprom to be authorized to impose economic sanctions on enterprises for violations of contractual obligations. These functions are the responsibility of state and departmental arbitration and the people's court.

The idea of presenting the RAPO's with broad rights in the area of distribution relationships at the rayon level, for smoothing out the economic conditions for the management of APK enterprises, is deserving of attention. But the proposed variant for carrying it out requires thorough preliminary economic study, with detailed computations in the form of making preparations for an experiment.

The purpose is not clear -- no justification has been provided in this regard for extending broad rights to enterprises for determining the amortization schedules. We are of the opinion that it makes no sense to extend to the RAPO's the competence of Gosbank in the establishment of crediting conditions. The idea of granting the RAPO's broad distribution functions is possible and the

methods proposed for carrying it out would be more convincing if the stated plan was reinforced by basic economic statutes.

The proposal is being made, in the form of an element of the experiment, to introduce the normative method for wage fund planning and to grant the enterprises extensive rights in establishing the wage conditions. By no means is this a new idea. It has been checked experimentally over a period of many years and it is embodied in the decree of the CPSU Central Committee and USSR Council of Ministers entitled "Further Improvements in the Economic Mechanism for Management in the Country's Agroindustrial Complex." The proposed method for establishing the norm -- based conditionally upon net output -- is somewhat unusual. This indicator is known to science and practical work but in another sense. It is understood to mean the gross income (total amount of the wage fund and net income) computed in these or other prices. In the article, for one reason or another, the indicator for net output, which serves as the criterion for evaluating the results of economic activity, includes the amortization, which never constitutes income ("net output") from an economic standpoint, since it applies to the production costs and not to the "additional value realized" as maintained by the authors.

But the problem is not simply one of terminology. Experience accumulated over a period of many years reveals that the use of piece-work rates per 100 rubles worth of gross agricultural output for the wages of sovkhos workers and the use of any cost indicator (gross output, gross income or any other arbitrarily computed cost indicator) as a computational base for determining the norm and the actual formation of the wage fund leads to distorted results, since the structure of agricultural production and the ratio of the output volumes with the varying degrees of labor intensiveness and profitability are extremely dynamic.

An increase (compared to the level used for computing the norm) in the volumes for such types of products as sugar beets, potatoes and vegetables brings about a reduction in earnings based upon the final results and, conversely, an expansion in the production of highly profitable and less labor-consuming crops will increase the total amount for the computation of output, with no improvement taking place in the quality indicators. The cost indicator proposed in the experiment model under review can justify itself only if the purchase prices (within the RAPO framework), which according to the article should be calculated using computer equipment, will meet the requirement relative to an equal ratio for wage expenditures per unit of output in kind and the prices for each agricultural product. It is possible that this is what was intended. However, some doubt arises over the use of this indicator for computing not the entire output volume but only its marketable portion. This jeopardizes accumulations in natural form (increase in the insurance seed fund, an expansion in the feed base).

At the present time, the conversion over to the normative method for planning the wage fund at sovkhoses is becoming a practical rather than an experimental task. Towards this end, several norm variants must be approved. In our opinion, the norms for wages per unit of output in kind (basic quality) are the most fault-free.

Conclusions

The questions raised in the article under review go beyond an analysis of improvements in the economic mechanism only at RAPO's where economic experiments are being carried out and one way or another they touch upon problems concerned with the functioning of the entire USSR Gosagroprom system. The solutions for these problems, including more active and effective utilization of legal means, will serve to accelerate the country's socio-economic development and the carrying out of the Food Program, upon which attention was focused in the decisions handed down during the 27th CPSU Congress.

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MURAKHOVSKIY: ACCELERATE S & T IN APK BRANCHES

MOSCOW VESTNIK SELSKOKHOZYAYSTVENNOY NAUKI in Russian No 7, Jul 86 pp 3-11

[Article by V. S. Murakhovskiy, First Deputy Chairman of the USSR Council of Ministers and Chairman of the USSR State Agro-industrial Committee: "Acceleration of Science in the APK [Agro-industrial Complex]"]

[Text] The current session of VASKhNIL [All-Union Academy of Agricultural Sciences imeni V. I. Lenin] is of special significance. It examines the goals arising from the decisions of the 27th CPSU Congress, which took place during a radical turning point in the life of the country and which was an event of true historical importance. The political report of the CPSU Central Committee to the congress, the new version of the Party Program, the Basic Directions of Economic and Social Development of the USSR During the 11th Five-Year Plan and in the Period to the Year 2000--these are all documents of great theoretical and political significance. They reveal the great panorama of the contemporary world and its basic tendencies and contradictions. They provide a thorough analysis of the development of the CPSU and of Soviet society and of successes and difficulties, and they establish the strategic directions of political, economic and social party activity. The acceptance of the documents by the 27th CPSU Congress is a new word in the theory and practice of building communism and a weighty contribution to Marxist-Leninist theory.

The congress took place in an atmosphere of integrity and unity, a high level of demandingness and Bolshevik truth. The speeches and reports of delegates openly and directly discussed the omissions, shortcomings and unfavorable tendencies in economics and the social sphere and the reasons for these phenomena.

The course of the April 1985 Plenum of the Central Committee toward accelerating the socio-economic development of the country and toward improving production relations received more comprehensive development. The congress emphasized the ever-growing role of science, the development of production forces, and the development and introduction of conceptually new technology, which will further the greatest labor productivity and production effectiveness. It is precisely on the basis of acceleration that our society must reach new boundaries, at which point the advantages of the socialist structure will be revealed with the greatest completeness. This course

requires the radical restructuring of the economy, a thorough transformation of material production and public relations, a breakthrough into vanguard directions in scientific-technical progress, and an improvement in the management and restructuring of the economic mechanism.

The rapid development of the scientific-technical revolution opens up new, previously unknown possibilities for accelerating the intensification of agro-industrial production on a qualitatively-new basis. Our and world science are on the threshold of discoveries and conceptually-new technological solutions capable of revolutionizing the entire production process. For this reason our main goal is to utilize as quickly and as thoroughly as possible the existing conditions for accelerated development in order to confirm our country's position as a state having a highly productive agricultural sphere and a developed APK infrastructure.

In the Political Report of the CPSU Central Committee and other documents from the congress one of the central questions raised was that of dependably supplying the country with food products. The congress emphasized that the persistent implementation of agricultural policy and the fulfillment of the Food Program are the priority goals of the entire party and of all the people. "We need a decisive change in the development of the APK," said M. S. Gorbachev, "so that we can seriously improve the supply of food products for the population already during the 12th Five-Year Plan."

In the years that have passed since the May 1982 Plenum of the CPSU Central Committee a great deal has been done to strengthen the material-technical base of agriculture, to improve chemicalization and reclamation and to improve the social development of the village.

However, the lags in agriculture are being eliminated slowly, which is hindering the attainment of the party's basic goal--to improve the well-being of the Soviet people. In some republics and oblasts production and scientific potential is being utilized with inadequate effectiveness. Despite the significant growth in capital investments and delivery of equipment and mineral fertilizers, many oblasts in the Non-Chernozem Zone of the RSFSR, Siberia, the Ukraine and Kazakhstan did not increase agricultural production output last year and did not achieve a considerable growth in livestock production output. In the country as a whole success was not achieved in fulfilling the goals of the five-year plan as concerns many types of agricultural products from farming and livestock raising.

In formulating the tasks standing before VASKhNIL and before agricultural science as a whole in the light of the decisions of the 27th CPSU Congress, it is essential to develop a precise program of activity for scientific-research institutions and to more thoroughly utilize scientific potential in order to accelerate the development of agro-industrial production. In his speech VASKhNIL President A. A. Nikonov noted that the scientific institutions within the VASKhNIL system focused most of their attention on dealing with the problem of increasing productivity and stability in agricultural production, on the development of zonal farming systems and technologies, on the breeding of plants and on the qualitative improvement of livestock raising. We feel that this work will have a favorable effect now and in the future. However,

the effectiveness of agricultural science is determined by the pace of production growth and by the productivity of fields and farms. All other criteria and indicators are only secondary, not primary. With this kind of approach to the evaluation of the operations of scientific institutions it is evident that the work of many institutes and branch and regional divisions of VASKhNIL does not meet contemporary requirements by far.

Grain remains a key problem for the country. We are obliged to purchase a large quantity of grain from abroad. Our goal is to increase gross yield and by 1990 to produce 250-255 million tons of grain. In comparison with 1985 we must increase productivity by 5-5.4 quintals per hectare, increasing grain yield to 21.6 quintals per hectare. This degree of growth is small if we consider that under the very favorable weather conditions of 1978 productivity equalled 18.5 quintals per hectare. But the goal is a realistic one. Farming systems are being introduced, the area of land in fallow has almost reached the desired size and the supply of mineral fertilizers increases from year to year; almost 6 million tons of additional fertilizer are being applied to grain crops, there is an opportunity to increase the application of organic fertilizers to 1.5 billion tons, the scale of reclamation is expanding and the delivery of equipment is increasing.

As noted by the CPSU Central Committee, our main reserve is the large-scale transition to intensive technology. With skillful introduction of this technology enterprises and entire rayons can achieve an increase in productivity of 8-14 quintals per hectare. Last year its implementation yielded an additional 16 million tons of grain. In 1986 grain crops are being cultivated according to progressive technology on 31 million hectares, and in coming years they must be raised in this manner on 49 million hectares of land. Such a sharp transition to intensive technology requires careful preparation and a solid scientific foundation. We know about this from the results of last year, when a number of oblasts and rayons did not achieve the desired results due to poor training of specialists and to negligence and omissions in work.

The CPSU Central Committee examined the report of the Siberian Division of VASKhNIL (Vice President P. L. Goncharev), subjected the work of the division to sharp criticism as regards inadequate aid to kolkhozes and sovkhozes in introducing intensive technologies, poor effectiveness in increasing the stability of farming, and the absence of comprehensive research in the latest directions of scientific-technical progress. In Siberia there are almost no rapidly-maturing varieties of spring wheat, which makes the zone's grain industry very vulnerable due to the late maturation of grains and to difficulties with harvesting. Institutes of the Siberian division of VASKhNIL have tolerated serious lags.

A similar situation exists in the Central Chernozem Region, where there are dozens of scientific institutions but where production has not received new varieties for use with intensive technologies. Let us look at the work of the Southeastern NIISKh [Scientific Research Institute of Agriculture], now the Elita Povolzhya NPO [Scientific Production Organization]. The NPO is called upon to make recommendations, to provide a scientific foundation for agricultural management in the Transvolga Region, which is a large producer of

commodity grain. But during the 11th Five-Year Plan the region's enterprises could not fulfill their quotas, and the MPO should also take the blame for this. The institute has not prepared a better wheat than Saratovskaya-29, which was regionalized almost 30 years ago.

Speaking at the 27th CPSU Congress, Academician A. A. Sozinov said that Bezostaya-1 wheat increased productivity by 20 percent in its time. Where are the new varieties, the economic qualities of which will meet contemporary requirements for the intensification of grain production? The country's kolkhozes and sovkhoses are awaiting them from scientists-breeders.

Progressive technology--this refers not only to grain production, but to an intensification of the production of sugar beets, cotton, oil-bearing crops, potatoes, vegetables and other crops as well. Here we are also not yet utilizing existing reserves. We need a decisive and abrupt transition to fundamentally new technologies for cultivating agricultural crops.

As a rule, the research work of scientific institutions did not culminate in the issuance to production of specific technologies for cultivating crops, let alone in the introduction of such technologies with the participation of scientists. This refers to the All-Union Scientific-Research Institute of Legumes and Groats, to the All-Union Scientific-Research Institute of Oil-Bearing Crops imeni V. S. Pustovoyta and to many other scientific institutions. Poor results in the work of institutes has to a large degree resulted from a low level of demandingness on the part of the VASKhNIL presidium. In recent years in many collectives of scientific-research institutes complacency has been evident. Research is disconnected and insignificant research subjects are prevalent.

In many regions the work of zonal institutes is poorly evident as concerns the introduction of completed scientific proposals into agricultural practice. Farming research basically involves various techniques that are not related to each other. A situation is created in which an institute does not produce a comprehensive technology for crop cultivation.

The restructuring and organization of technological centers must create the conditions for a comprehensive solution to these problems. We must cardinaly and fundamentally alter the work dealing with the development and perfection of the technology for cultivating agricultural crops.

When developing specific farming systems for regions and the technologies and varieties closely related to them, science must proceed from the necessity in the next 5-year plan to produce stable harvests of winter and spring wheat under production conditions and to unconditionally fulfill tasks related to gross grain yield.

In this an important role will be played by breeders. A broad network of breeding centers has been created in the country. These centers are well equipped and have at their disposal the largest genetic fund found in the world. Many scientists are involved in breeding. However, in evaluating their activity from the point of view of a high level of party and state demandingness, we must admit that serious lags are being tolerated here.

Breeding centers have not carried out their main assignment: during the 11th Five-Year Plan they did not develop drought-resistant, frost-resistant varieties of spring and winter wheat and other agricultural crops that are also able to withstand root rot and other dangerous diseases. For this reason each year the country underproduces a large quantity of grain. A particularly small number of highly productive varieties and hybrids has been developed. There are only a handful of these. We are not experiencing such sharp increases in productivity as provided at one time by the varieties of leading Soviet breeders V. N. Remeslo, V. S. Rastovouta, P. P. Luk'yanenko and V. N. Mamontova.

Breeders are dealing slowly with the problem of improving the quality of production, of increasing protein content in grains and feed crops, of increasing oil content and sugar content, of improving the quality of the fiber and of increasing the return on water and nutritive substances.

There are many shortcomings in the breeding of corn although 34 institutions are involved in this work. There has been no development of hybrids with a potential productivity of 20-30 quintals per hectare when cultivated on irrigated lands and of 80-90 quintals on dry-farming land. Of the 114 regionalized hybrids only 11 are of the early-maturing type, but most of them are inferior to foreign varieties in uniformity, rapid maturation and resistance to lodging. Late-maturing varieties are insufficiently adaptable to machine harvesting and yield 20-30 quintals per hectare less than Yugoslav hybrids, for example.

The All-Russian Scientific Research Institute of Potato Farming, which coordinates research on potatoes throughout the country, is in great debt to kolkhozes and sovkhoses. During the last 10 years it has developed eight varieties which make up less than 1 percent of the potatoes sown in the USSR. But even these small areas are being curtailed because the new varieties are not resistant to diseases and are hardly suitable for mechanized harvesting. The state is spending millions of rubles to support this institute, but kolkhozes and sovkhoses are forced to cultivate potato varieties that were regionalized as long ago as the 1930's. Is this proper? Isn't it time to ask whether the scientific-research collective should make a transition to cost accounting?

Scientific support of the APK is also insufficient as regards oil-bearing crops. There are no sunflower varieties and hybrids that are sufficiently resistant to pests and diseases. There is an absence of rapidly-maturing varieties of soybeans that are resistant to low temperatures and to viral diseases, especially in the Far East. The effectiveness of the work of scientific institutions as concerns cotton and feed crops is extremely low.

During the last 10 years our breeders not only have not consolidated their positions, but have actually retreated. There was a time during which western countries simply coveted Soviet varieties of winter wheat, sunflowers and other crops.

Relying on the latest achievements in genetics, VASKHNIL must raise the entire complex of breeding work to a qualitatively new level already in the near

future. This is required by the extensive tasks assigned to the agricultural complex in the period to the year 2000. Breeding work must proceed radically and must be based on molecular genetics and genetic and molecular engineering. We must organize biotechnical centers as quickly as possible and begin extensive applied research in the fields of molecular biology and biotechnology, especially as concerns the development of methods of self-breeding and the creation on this basis of qualitatively-new varieties and hybrids.

We must create new breeding programs in order to deal with extensive problems such as increasing protein production, increasing the capability of plants for photosynthesis and for the assimilation of atmospheric nitrogen, increasing the effectiveness of mineral fertilizers, and sharply raising the resistance of hybrids and varieties to diseases, pests and unfavorable weather conditions. Success in these areas may radically change the face of agricultural production.

The possibilities for using mineral and organic fertilizers, liming substances, chemical soil reclamation agents and plant-protection agents have been worked out. Many billions of rubles are expended for these purposes. This great potential should be utilized wisely while increasing soil fertility and creating an optimal nutritional regimen for plants without harming the environment. With this goal in mind, central and regional scientific-research centers for chemicalization have been created, but they have not yet demonstrated the necessary effect on production.

We need effective means for protecting the harvest. However, this should be reduced only to chemical agents. The protection of the harvest must encompass integrated measures--biological, agrotechnical, chemical and organizational.

We are suffering great losses due to soil erosion, especially that resulting from water. There have been many calls to combat this, but effective elaborations are not forthcoming. Counter-erosion machine units have been produced for almost a quarter of a century without basic changes, and we cannot be satisfied now with the baggage of the 1960's.

There is cause for alarm in the deterioration of chernozems, in the pronounced negative effect of heavy machinery on the soil, and in the poor rehabilitation of eroded lands. We do not have a contour farming technology for eroded lands. The All-Union Institute of Farming and of Counter-Erosion and Protection, which has been called upon to direct this work, has been in existence for 15 years and over 20 million rubles have been spent in equipment. But it is idling. Our largest scientific centers--the Agronomy and Soil institutes--are not providing the necessary return.

Of priority importance is the preservation and increase in humus in the soil because this is the essence of fertility. The important thing now is to develop new directions in soil cultivation and to make a transition, wherever possible, to minimal and plowless cultivation, to drainage of overly-salty and compacted soils, to cultivation with combination equipment and to direct sowing. Everything must be interrelated as concerns improving soil fertility and the protection of the harvest. This is why the importance of action in

collectives which are responsible for this work is increasing sharply, especially now, when a path toward intensification of farming has been chosen.

Basically, in farming we must make the transition to the scientifically-based management of harvest development throughout the entire vegetative period. This is a qualitatively new stage in crop cultivation. We hope that VASKhNIL academicians N. Z. Milashchenko and V. S. Shevelukha, who are responsible for this work, will take measures to strengthen the scientific foundation for increasing productivity.

Complex tasks also stand before livestock raising. It is essential to double the pace of growth in meat production, bringing it up to 21 million tons by 1990. Half the increase should result from beef. A great deal also remains to be done to intensify hog raising, sheep raising and dairy farming. In order to fulfill our goals for 1990 we must increase the productivity of cows by 250-350 kilograms, and this can be achieved. In 1985 the farms of Estonia produced 3,960 kilograms per cow, of Moscow Oblast--3,340 kilograms and of Krasnodar Kray--3,000 kilograms. During the past 5-year plan the increase has equalled 280-350 kilograms of milk per cow in the leading oblasts and republics.

Of course, these great tasks in livestock raising must be dealt with by kolkhozes and sovkhoses. But scientific support here must be greater and not less than, let us say, in farming.

Some scientists, including some within the division of livestock raising in VASKhNIL, are of the opinion that everything revolves around the feed base, which is improving slowly, and that therefore science is not at fault in low farm productivity. Of course we must decisively strengthen feed production. But the condition and level of breeding work, the improvement in the technology of livestock production output and the efficient utilization of feeds are no less important.

First of all we must raise the genetic potential of livestock and fowl on the basis of purposeful breeding and of the improvement of the entire complex of breeding work. At the present time 22 breeding centers, about 1,800 breeding enterprises and 9,600 breeding farms are involved in this. Their activity must always be within the focus of zootechnical science. The country has valuable breeds at its disposal, but some of them do not correspond to the needs of industrial technology and are inferior to the best foreign species as concerns quality indicators.

Our livestock raising has lagged considerably behind that of other countries in the world in the Holsteinization of the dairy herd, which today is considered the main factor in intensification. Even in the experimental enterprises of VASKhNIL this work is being carried out very slowly. In recent years, in order to raise genetic potential a large quantity of cattle has been imported from abroad, but it is not being utilized well everywhere. It is essential already this year to achieve significant results in the qualitative transformation of the herd. Biotechnology, particularly embryonic transplants, must be widely utilized to accelerate the multiplication of progeny from leading animals. Abroad this work is being done extensively.

And what is the situation here now? Transplant centers have been created within the All-Union [All-Union Scientific Research Institute] of Livestock Raising, the All-Union NII for Breeding and Genetics of Agricultural Animals, the Ukrainian NII for Breeding and Artificial Insemination, and the Livestock Raising NII of the Forest-Steppe and Forest Zones of the USSR. Equipment has been purchased for them with foreign currency, and many scientific workers have been recruited, some of whom have had training abroad. However, the work results of these and other institutes are extremely unsatisfactory. In two Ukrainian institutes 34 calves were produced last year with the help of transplantation. If we exclude the great investment that has been made, then we can truly call each animal a golden calf. Such a low level of results can be explained only by an irresponsible attitude toward work by NII workers.

Work effectiveness is low in scientific-research institutes that deal with meat livestock raising. During the last two decades thousands of heads of cattle have been imported, yet their preservation and reproduction have been organized slowly. Technologies for fattening livestock were also procured, but they were not disseminated extensively. The All-Union Scientific Research Institute of Meat Livestock Raising (director N. V. Fulagin), other scientific institutions, and the entire livestock-raising division of VASKhNIL (L. K. Ernst, A. P. Kalachikov) are dealing with this problem unsatisfactorily.

In the All-Union NII of Meat Livestock Raising with 250 scientific workers about 1 million rubles are allocated annually for scientific work. However, during the last 30 years its collective has not developed a single highly-productive breed. The number of meat cattle in the zone is not growing. In the experimental enterprise of the institute last year 100 cows produced only 63 calves, and average daily weight gain in animals comprised less than 500 grams. What kind of authority can such scientists have, what weight can the proposals of this institute carry for production? It should be clear to everyone that after the 27th Party Congress we cannot continue to work in the old way.

In livestock raising we should sharply strengthen the feed base and eliminate the protein deficit. The Black Program has been developed, but this is only a first step and it is extremely important to take measures to implement it. We must achieve growth at a tremendous pace in the production of green, coarse and succulent feeds and of leguminous and oil-bearing crops. We must deal everywhere with the structure of feed lots and develop the most effective structures with a consideration of the specific conditions for feeding specific types of animals. Based on the experience of western countries we must decisively move toward decreasing the proportion of grain in mixed feeds. Here an increased contribution should be made by the VNII [All-Union Scientific Research Institute] under V. P. Vilyams, by the Ukrainian and Kazakh NII's of feed and by other scientific-research institutions. A solution to the feed problem is of strategic importance. All regional VASKhNIL divisions must take control of this nationally-significant matter.

To intensify livestock raising we need to have dependable protection of plants from disease. At present we still have problems involving brucellosis, tuberculosis and other cattle diseases. Losses from animal diseases are still

very great and reach 1.5 billion rubles. The protection of animals from disease under conditions of industrial livestock raising has been insufficiently developed. The veterinary division, headed by VASKhNIL academician N. I. Shishkov, must deal seriously with the problem of protecting animals from disease and must protect livestock raising from great losses.

In general, the work of the livestock-raising, feed production and veterinary divisions of VASKhNIL must be fundamentally restructured and brought closer to the needs of practical work.

The implementation of the party's agricultural policies requires comprehensive scientific elaboration of the economic problems of agricultural development. In connection with this, extremely important tasks are set for agricultural economists. The organizational restructuring of the management structure of the agro-industrial complex at all levels--rayon, district, republic and center--has practically been completed. Resolutions of the agro-prom organs have been confirmed. At the same time the urgent necessity to strengthen restructuring by means of an effective economic mechanism has arisen.

In the recently-passed resolution of the CPSU Central Committee and Council of Ministers, "On the Continued Improvement of the Economic Mechanism of Management Within the Country's Agro-industrial Complex," a proposal by the 27th party congress concerning the creative utilization of land and food taxes relative to contemporary conditions has been implemented. It is directed at the more thorough utilization of the mechanism of commodity-monetary relations.

The practice of planning "from the achieved level" was eliminated. A transition in accordance with the resolution on normative subjects and elaborating plans with a consideration of the economic value of land and the availability to enterprises of fixed capital and labor resources requires great preparatory work. The planned transition has caught economic managers unawares. Even now an economic evaluation of land and production resources has not been carried out everywhere. There is no normative base for all stages of management. Many collectives of economic institutions continue to find themselves removed from the needs of kolkhozes, sovkhozes and other management organs as a result of inertia.

For this reason the priority goal of VASKhNIL's economic division is to develop, within a short period of time, a methodology and technical-economic norms for the transition to scientifically-based planning and to help enterprises and rayons in the economic evaluation of land and production resources. The new planning system presupposes a multi-variant development of plan drafts, for which it is essential to more widely utilize mathematical methods and computer technology.

The CPSU Central Committee and the Soviet government consider it essential to implement a number of supplementary measures to strengthen economic accounting and to develop contract forms of labor organization. The goal which has been established is to make the transition to this everywhere within the next 2 years. For this the system for forming the wage fund is being

changed: direct wages are being improved and wages in natural form are being increased for those who work under conditions of collective, family and individual contracts. The effectiveness of cost accounting is growing.

From economic science we expect that all of its subdivisions will be actively included in the implementation of the adopted resolution on the introduction of the new economic mechanism in enterprises, rayons and oblasts.

The implementation of party directives requires a comprehensive scientific elaboration of the economic problems in APK development and a constant improvement of the economic mechanism. Meanwhile scientific collectives are very limited in their research in promising, more important directions of socio-economic development of the village, in the dissemination of production forces throughout the country and in optimizing production structure and the utilization of resources.

VASKhNIL and its institutes still have practically no elaborations at their disposal regarding the effective stimulation of production. Great differences in natural and economic production conditions place kolkhozes and sovkhoses on an unequal footing, of course. In order to equalize management conditions we need a flexible planning and financial mechanism which includes a system of differentiated prices, budget allocations, credit and so forth.

Theoretical questions related to this type of mechanism were reflected in the resolution, "On Further Improvements in the Economic Mechanism of Management Within the Country's Agro-industrial Complex." However, specific studies for oblasts, rayons and enterprises must be worked out immediately by economics institutes.

Questions related to the proper relationship between private and public interests of collectives, production qualifications and the attitude of people toward their work require careful study. Wage leveling cannot be tolerated here. All elements of cost accounting must be carefully worked out as regards various food collectives. The optimal coordination between intra-enterprise and complete cost accounting must be found, and ways to make the transition to principles of self-support must be determined.

There is limitless work for science in the area of social problems as well. First and foremost we are speaking about the development of effective measures for managing demographic processes--for securing young people in the village and for forming stable labor collectives. One hears all types of reasoning by economic scientists, but we still do not have thorough research or scientifically-based proposals.

Among the measures that will secure accelerated scientific-technical progress in the APK the introduction and integration of science and production is being given a growing role. Scientific-production associations are to be greatly developed. At present there are still very few of them. It is essential to more extensively recruit scientists into the sphere of agro-industrial production. We must more boldly include the NII among the large associations. In order to accelerate scientific-technical progress we must find economic keys which will create priorities only for these research institutions and

production enterprises, the collectives of which are actively improving that which is new and progressive and are actively seeking out ways to increase the pace of growth of production output and to decrease costs.

We must carefully analyze the entire experience of the interrelation of science and production, improve the economic mechanism for their cooperation and more closely relate the material reward of scientific collectives to their real contribution toward solving scientific-technical problems of the agro-industrial complex.

In accordance with the requirements of the 27th CPSU Congress we will change the style and methods of work related to managing science; we must radically alter the planning and financing of scientific research and of the scientific and technological elaborations. On the basis of state scientific-technical programs plans-orders will be taken locally by USSR Congresses [USSR Agricultural Committee] and its organs in order to more rapidly solve problems related to the tasks of developing and improving production.

All of the work of the VASKhNIL session, the report of the Academy of Sciences and the speeches of participants are aimed at implementing the agricultural policies of the CPSU. We can express our confidence that Soviet scientists will do everything they can to successfully fulfill the historical assignment of the 27th party congress and to make a weighty contribution toward strengthening the economy of our homeland.

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FORESTRY, TIMBER

TIMBER INDUSTRY COLLEGIUM ASSESSES HALF-YEAR TOTALS, TASKS

Moscow LESNAYA PROMYSHLENNOST in Russian 15 Jul 86 pp 1-2

[Unattributed Article: "Speeding Up Reorganization"]

[Text] Meetings of the ministry collegium and our union's central committee were held at the USSR Ministry of the Timber Pulp and Paper and Wood Processing Industry. During the meetings, the results of the first half-year were summed up and the tasks facing workers in the various sectors of the forestry industry arising from decisions made at the June (1986) CPSU Central Committee plenum were outlined. Minister M.I. Busygin gave a report.

The time that has passed since the 27th CPSU Congress, he noted, is already sufficient to determine who is who in our collective work--who is actually looking for and finding ways of reorganizing the economy, and who is only talking about doing so.

The purpose of today's important discussions was to identify the main internal factors preventing the consolidation of rates achieved at the beginning of the year, and on that basis to find ways of overcoming any negative effects, inertia and outdated concepts, views and psychologies.

Of course, there have been achievements in our sector. On the whole, the ministry exceeded the plan for production and sales of marketable products by 320 and 262 million rubles, respectively. The growth of production to last year's level exceeded planned rates. The growth of labor productivity within the industry was 7.9 percent compared with a planned rate of 3.7 percent. Profits and savings in production costs exceeded plans.

Loggers produced 1.8 million cubic meters of timber and around three million cubic meters of round timber over and above the plan.

We must honestly admit, however, that in spite of the individual achievements, the process of reorganization has been slow to date. The sector's initial sprint during the first four months apparently gave many managers the idea, said Busygin, that all their troubles were behind them, their problems were solved, and that the economic machine had been put into proper operation and would henceforth run itself.

As a result of this type of erroneous, complacent attitude, June's target was not reached in many important areas. All the shortcomings characteristic of the work of the sector in previous years came to the fore with renewed vigor.

The day before the collegium met, some of the managers of the republic ministries and associations responsible for the greatest failures were heard. Indeed, moving from persuasion to placement of severe demands on the guilty, the collegium fired and severely reprimanded a number of industry leaders who had decided that they had the right to freely tamper with the basic law of all economic activity--the economic plan--and to ignore ministry orders.

Those who do not wish to really devote themselves to the task at hand should not stand in our way--this was a common theme in many of the speeches heard.

For a long time, for example, the Vologdalesstroy trust was in the process of collapse. Instead of finding a way out of the crisis, however, its manager merely "bombaraded" the ministry with paper--"give me this, give me that." Now the manager has been replaced. And the results? Correspondence has been halved and business is much better.

This case was cited during the collegium by V. Vysotskiy, director of Soyuzlesstroy.

In order to avoid repeating the failure that occurred in June, it is important today to analyze thoroughly and critically the causes which led to that failure and to develop a strategy and work tactics for the second half-year and for the 5-year plan.

The following figures were cited: 22-28 percent and 42-48 percent. These are the average fulfillment levels for the monthly plans of the first and third 10-year periods. It is very likely that the principal weak spot in the forest sectors during these periods were emergency jobs, rushed work and decreases in production quality.

It was on this question that I. Fesenko, director of Soyuzbumaga also focussed his attention.

The collegium analyzed the state of economic work in the sector. It was observed that, on the whole, we have still not achieved a real, fundamental turn for the better. In the first place, the continuing practice of not making contractual deliveries should be noted. The sales plan in terms of delivery obligations was only fulfilled up to 97.9 percent. Deliveries to the national economy over the 6-month period fell short by 233 million rubles, at a time when commodity production plans were overfulfilled by 320 million rubles.

This situation is all the more intolerable because, as of 1 January 1987, fulfillment of delivery targets and obligations will become one of the basic criteria for evaluating the results of the economic activity of associations and enterprises. This means that there is no time left for gaining momentum.

"We understand this," said G. Minin, director of Tyumenlesprom. The difficulties which present themselves along the way cannot be regarded as

objective; they are related to our own shortcomings and this means they can be eliminated quickly. It is merely a question of isolating the causes and fighting to root out the defects thoroughly.

This is the correct, party attitude of a manager! Unfortunately, not all our local headquarters share this view, as has been demonstrated by an analysis of the work done during the first half-year by the various subsectors within the forestry complex.

In the logging industry, the chief negative result consists in the fact that the level of fulfillment of plan targets in many of the subsections decreased sharply during the summer, and the pace established at the beginning of the year was lost.

Integrated equipment units continue to be underused during the summer. Though targets called for exemplary organization of the work of 900 logging and lashing/skidding machines, in fact only 600 such machines were in multishift operation in June; in addition, only 650 out of 1,100 chokeless logging tractors and just over 500 of 880 lopping machines were in operation.

But both the effectiveness and capacity for use in shift work of the new equipment depend directly on the level of organization and engineering support, and the manager's readiness to make demands and take responsibility.

Up to now this has not been enough for such production leaders as V. Plokhov, director of Arkhangelsklesprom, I. Kirillov, director of Krasnoyarsklesprom and a number of others who are waiting for the ministry to prompt them instead of managing things on their own.

Today, under conditions of acceleration, we cannot in addition tolerate the fact that a significant number of brigades are not fulfilling their tasks according to plan. And judging from the results of the first half-year, there are too many such brigades in Komilesprom, Irkutsklesprom and Omskles.

The present rate of forest road construction is cause for serious concern. The 6-month plan for construction of major year-round roads has not been fulfilled.

The ministry has issued a large number of orders and decisions in this regard. But as we have seen, their fulfillment is at an extremely low level.

Residential construction enterprise indicators deteriorated significantly in June. In spite of the measures that were taken and a full supply of raw materials, the plywood industry has also not attained levels set by current targets. This June, for the first time in recent years, the ministry as a whole did not fulfill the plan for production of cultural, domestic and household goods.

The tasks for the second 6-month period were formulated by the collegium extremely clearly: the plan is law and should be fulfilled unconditionally—not at "any cost," however, but closely observing nomenclature, and qualitative and economic indicators.

There was yet another very important issue that was dealt with. Machine building within the industry is in need of radical re-tooling. The sector is now aiming to construct its own plants. The 5-year plan calls for an increase in the volume of machine building production by 11 times, and for an increase in capital investment in plant construction. In this connection, the experience Leningraders have gained in increasing the utilization of their stock of machine tools should become for us the principal means of increasing simultaneously the volume, modernization and reconstruction of operating plants.

As was mentioned during the collegium, questions relating to preparation for the winter season are becoming the subject of particular concern today. Selection of a felling area within the zone of winter timber-carrying roads based on the designated limit will be completed by 15 September--to fell 100 million cubic meters of timber during the first quarter of 1987.

Reserves of ready full-length logs totalling 30-35 million cubic meters must be created. And this means that during the months of July-October felling in hard-to-reach bases must be expanded, even if this includes employing the shift method.

The construction of housing, cultural and domestic facilities, day-care centers and dormitory facilities for seasonal workers must receive the utmost shift method.

L. Maklyukov, secretary of the union central committee, spoke on this subject during the collegium. He criticized the union workers in our enterprises in the Vologoda, Perm, Amur and certain other oblasts who do not know how to properly ignite the fire of competition amongst themselves, and do not reach each and every brigade, each and every forest worker.

Maklyukov gave special emphasis to the need to disseminate valuable experience, and to encourage and develop local initiatives, such as those of the better brigades of the Komsomolskiy Timber Management of Tumenlesprom, which travel around to other enterprises within the oblast and demonstrate, using themselves as examples, that modular equipment can be highly productive. Or Prikarpatles's remarkable undertaking to provide every family working for the enterprise a separate apartment already by 1990.

V. Ovchinnikov, secretary of the ministry party committee, spoke about reorganizing the work of the party, implementing the directions of the 27th CPSU Congress and renewing the forms and methods used by communist leaders in their activities. He emphasized that to reorganize means, above all, to increase one's demands on oneself and not to allow complacency. Unfortunately, this kind of style has not become the norm for certain subdivisions of the industry's personnel such as, for example, timber-raffing management.

The ministry collegium also discussed such issues as re-tooling, modernizing and re-structuring production in the 12th 5-year plan, the fruits of scientific developments, the training of highly-qualified personnel, and others. The following individuals spoke after Ovchinnikov: K. Minetas, minister of the furniture and wood working industry of the Latvian SSR, V. Pintus, director of production management of the wallboard and plywood industries of the USSR ministry of the timber, pulp and paper, and wood processing industry, and G. Melnikov, director of Kirovlesprom.

I.P. Dyatlov, CPSU Central Committee assistant manager for the sector, also took part in the collegium.

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FORESTRY, TIMBER

BELORUSSIAN TIMBER INDUSTRY EXPERIMENT DISCUSSED

Moscow LESNAYA PROMYSHLENNOST in Russian 2 Aug 86 p 2

[Article by P. Nekrashevich, chief of the BSSR Minlesprom {Ministry of the Forestry Industry} Planning and Financing Administration: "The Limits of Independence: A New Way of Management"]

{Text} In their first year, the enterprises which are affiliated with the BSSR Ministry of the Timber and Wood Processing Industry have been operating as part of an economic experiment. It is, of course, not yet time for final conclusions, but some results can be summed up. For the ministry overall, the six-months' plan for the volume of products sold has been fulfilled by 102.1 percent, for commodity output--by 103 percent and for labor productivity by 103.3 percent. The entire increase in output, as was also provided for in the assignment, was obtained through the growth in labor productivity.

Obviously, this entire successful start would have been impossible without thoroughgoing and comprehensive training for the new management conditions. This training began with structural changes. Timber procuring enterprises were merged with the wood-working associations which had been organized earlier. This is how timber production ended up with a single manager. The advantage of this type of one-man management has already been proved by life and has once again shown up in the course of an experiment.

Our own experience has convinced us that much depends on the training period. That is why I would like to tell briefly about what the ministry specialists were doing during those months. I think this information could prove useful to those who will take the same course of action in the future. A commission, headed by the ministry was set up to handle the operational guidance of the enterprises in what was to be the new management conditions. The commission was made up of the ministry's administration and department chiefs and representatives of various agencies of the republic: Gosplan [State Planning Committee], Minfin [Ministry of Finance], Gosbank [USSR State Bank], Goskomsen [State Committee on Prices] and Goskomtrud [State Committee for Labor and Social Problems]. They made a study of the experience of those of the republic's ministries which were already working within the framework of a widescale experiment, took note of corresponding measures, and gave instruction to leading workers at meetings and seminars.

To help in the training of the association specialists, an educational-topical plan designed to raise the skill-levels of the ITR [engineering and technical personnel] and office workers was developed as a 40-hour program, and sent to the different worksites. By December they had all been for the most part provided with instructional and normative-methodological documents.

The development and delivery of the planning indicators to the enterprises and associations had to be accelerated. The figures for 1986 were confirmed and reported to the sites during the first half of December of last year, and the five-year plan figures--in January of this year. This is quite a bit earlier than usual, though a bit late for working within the experiment. But Moscow wasn't built in a day.

And now to those discrepancies with which we have already run into. The first of them is the plethora of planning indicators which were actually destroyed at the root of each of the enterprises' initiatives. It's as though the experiment also sets a reasonable work force reduction as one of its goals. However, it's worth it to the experiment just to begin, as additional indicators began to rain down on us from all sides. With this kind of motivation, you just can't refuse.

The other misfortune was in the limits on the makeup of the administrative staffs. There are no two ways about it--the total has to be solidly set. But within the limits of this total, the directors of the enterprises and associations need to be given the chance to maneuver the number of workers. But alas, this has not happened: everything has been entered, literally up to and including how many persons are to work in each department. It seems to us that it would have been more reasonable to develop optimal model regular staff rosters for corresponding structural subdivisions and quotas for other expenditures for the makeup of the administrative staff.

In our view, the procedure for figuring the enterprises' and associations' wages is obsolete. As it is, it fails to take into account the temporary reduction in the growth rates for commodity output volume in individual quarters of the year, which are associated with renovation or technical reequipping. This leads to absurd situations. An example: the Mostovdrev [Moscow Timber Trade] Association is presently in the process of renovating its chip-board sheet-manufacturing shop while at the same time building a complex for manufacturing sheets with aligned chips. By the way, this will be the first time for this product to be manufactured in our country. So it is precisely as a result of this renovation that the planned and actual growth rates for the association's first quarter commodity output volume fell off. In refiguring the wage fund by the method which is now in effect, it turned out that the association at one stroke also has effected both an absolute saving and a relative over-expenditure. But as is well known, we penalize over-expenditure. Undoubtedly, such a reckoning system slows down renovation and technical reequipping efforts.

As is common knowledge, all of the country's timber industry enterprises are slated to change over to the new management system. That is why it is so very important right now to do everything necessary so that their independence and creative initiative are not restricted by any bounds whatsoever. For it is also an experiment for revealing existing shortcomings in an economic model. Only they need to be eliminated as expeditiously as possible.

FORESTRY, TIMBER

CHIP PRODUCTION PROBLEMS VIEWED

Moscow LESNAYA PROMYSHLENNOST in Russian 18 Sep 86 p 2

[Article by M. Pashkovskiy, chief, BSSR Minlesbumprom (Ministry of the Timber, Pulp and Paper, and Wood Processing Industry) Technical Administration: "Eliminating the Harmful: Or That Which Holds Back the Production of Manufacturing-Grade Chips in the Felling Areas"]

[Text] BSSR--Let's start with a figure. In recent years the logging volume in the BSSR Minlesbumprom has increased by a factor of 10, but the share of mature timber stands has been reduced by 46 percent, presently amounting to less than three percent of the area covered by forest. Deciduous stands predominate with regard to the felling stock. A fifth part of these stands are comprised of small-scale commodity producers. In this case, about eight cubic meters of waste wood products come out of each hectare of felled timber area. These waste products are suitable for chip production.

Of course, it would be unprofitable to process just these waste products on the spot. But in fact, there is always a portion of this small-scale commodity product left on the land after it has been developed. Taken all together, there is quite a sufficient volume of work for a mobile chipping machine.

This is precisely the waste wood mentioned in our earlier figures and the same with which we have set up production of manufacturing-grade chips in the felling areas.

These first steps have already shown the merit of this matter. Vitebskles workers were the first to produce chips using the Valmet-100 TC chipping machine when during 25 shifts they produced 726 cubic meters' worth. The labor intensiveness has been markedly reduced compared to the previously used method (shipping the raw materials in rail cars). In Belorussia, where the volume of chips produced right in the felling areas can be brought up to 500,000-600,000 cubic meters per year, this promises to make possible the conditional freeing of some 150 timber-cutting workers. And there are other incontestable advantages.

In the first place, the introduction of mobile chippers enhances the acceleration of technical progress throughout the entire timber-procuring complex. In this case, both large- and small-sized trees are skidded to individual stacks. This prevents breakage of the small trees both during felling as well

as while being loaded by the grabber-loaders. There is also, respectively, a reduction in the quantity of waste materials, an improvement in safety engineering and a reduction in time lost due to picking up small pieces of wood.

The fact that manual labor here is declining is also gratifying: small trees are being processed without having to chop off the branches. And another detail which is of no little import: the average volume of trimmed logs is increasing by virtue of processing the smaller trees into chips, and this is having a positive effect on the productivity of hauling out the timber as well as on later storage operations. In addition to everything else, this production method has given us the opportunity to develop stands of trees and felling areas which we previously would have neglected because of their low volumes of dressed logs.

The overall economic effect derived from the manufacture of chips right at the felling area, in comparison to manufacturing them at the customer's comes to the following: where the manufacturing-grade raw materials are shipped 50 km, 15.4 rubles per cubic meter; at 100 km--8.64 rubles, and 150 km--2.14 rubles.

The Vitebskles example was followed by the Borisovdrev, Rechitsadrev, Mozyrdrev association collectives as well as other enterprises. The upshot is that 75,000 cubic meters of chips have already been produced last year right at the felling areas. For comparison's sake, let us say that less than 4,000 cubic meters were produced in 1981. Chip production is slated to reach 300,000 cubic meters by the end of this five-year plan period.

But even these 300,000 cubic meters comprise only half of what can be made at the felling area. A two-fold increase in the processing of raw wood materials in these mobile chipping machines would make it possible to set up non-seasonal manufacturing in Belorussia.

What's preventing this from happening? The matter is, that up to now no solution has been found to the problem of estimating the amount of raw wood materials made into chips right in the felling areas, according to the production phases. This is the reason that the chips produced from waste materials have not, in the first place, been included in the shipping-out plan, and in the second place, have not been considered as part of the products mix.

Where is this leading? As has already been said, the introduction of the chippers reduced felling wastes to a minimum: and into the affair come the smaller trees, the tips cut off when stacking them in the cars, the smaller pieces and a portion of the tree crowns. If the chips made from all these are not counted as part of the product mix, (as they have been up to now), then in order to fulfill their production plans, the enterprises will have to draw in additional raw timber resources. At the same time, an artificial understatement of timber area usage will occur.

In a word, it is a circle of paradoxes. If the timber cutters were to take the manufacturing-grade raw wood materials to the customer where it is made into chips, then the supplier is made into a hero. His timber production is in order, as is his product mix program. But if the chippers make chips of these raw wood materials and the wood waste out at the felling area, then all his services are for naught.

Here's the upshot: the less chips an enterprise produces at the felling area the more the enterprise earns. This evaluation is also promoted by the present system of calculating the chips by production phases. This is why the restructuring is proceeding with so much difficulty. And it needed to be in effect, as they say, by yesterday. The fact is that manufacturing-grade chip production in Belorussian timber-felling areas fell during the last five-year plan period from 37,800 to 3,400 cubic meters.

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POLICY. ORGANIZATION

RESOLUTIONS ON REORGANIZATION OF CONSTRUCTION MINISTRIES

Moscow PRAVDA in Russian 13 Sep 86 pp 1-2

[Resolution of the CPSU Central Committee and the USSR Council of Ministers
On the Further Improvement of the Management of the Country's Construction
Complex and On Measures for Improving the Management Mechanism in Construction]

[Text] On Further Improvement in the Management of the Country's Construction
Complex

The decree which was adopted in accordance with the decisions of the 27th CPSU Congress envisions a number of measures on intensifying centralized management of the country's unified construction complex with the simultaneous expansion of the rights and increase in the responsibility of the Councils of Ministers of the union republics and the local Soviets of People's Deputies for the accomplishment of the plans for capital construction, development of the base, and raising the level of construction production.

For these purposes, it has been considered necessary to convert the USSR State Committee for Construction Affairs to the union-republic State Construction Committee of the USSR (Gosstroy)--a permanent organ of the USSR Council of Ministers for the management of the country's construction complex.

Gosstroy USSR has been assigned responsibility for implementation of the decisions of the party and the government in the field of capital construction, introduction of the achievements of scientific and technical progress and advanced forms for the organization of labor and, on this basis, raising the efficiency of construction production, and the accomplishment of the tasks of the State Plan for the Economic and Social Development of the USSR for putting into operation production capacities and facilities, housing, and other facilities having a social purpose.

For a further expansion of the rights of the union republics, it was considered expedient to transfer the republic ministries of construction from the jurisdiction of the union-republic construction ministries of the USSR to the direct subordination of the corresponding Councils of Ministries of the union republics.

The Councils of Ministers of the union republics have been given complete responsibility for the accomplishment of the tasks of the state plans for putting into operation production capacities and facilities, housing, and other

objects having social significance and for the results of financial-management activity of the construction ministries and the accomplishment of measures for the development of the material and technical base of construction production.

It was established that in the RSFSR, considering the significant volumes of work and the major tasks in the development and creation of the most important national economic complexes, construction is accomplished by the forces of the USSR all-union ministries.

It was considered expedient to form the USSR all-union construction ministries in accordance with the territorial criterion: the Ministry of Construction in the Northern and Western Regions of the USSR (Minsevpstroy USSR); Ministry of Construction in the Southern Regions of the USSR (Minyugstroy USSR); Ministry of Construction in the Regions of the Urals and Western Siberia of the USSR (Minuralsibstroy USSR). The Ministry of Construction in Regions of the Far East and Transbaykal has been renamed the Ministry of Construction in the Eastern Regions of the USSR (Minvostokstroy).

Gosstroy USSR accomplishes the direct management of the work of the Minsevpstroy USSR, Minyugstroy USSR, Minuralsibstroy USSR, Minvostokstroy USSR, Minmontazhspeystroy [Ministry of Installation and Special Assembly Work] USSR, Mintransstroy [Ministry of Transport Construction] USSR, and Ministroymaterialov [Ministry of the Construction Materials Industry] USSR and coordinates closely on construction problems with Gosagroprom [State Agroindustrial Committee] and the permanent organs of the USSR Council of Ministers on the corresponding national economic complexes, with ministries and departments of the USSR, and with the Councils of Ministers of the republics.

It was considered expedient to maintain the procedure for the coordination of Mintransstroy with the transport ministries.

To accelerate the increase in volumes of work on the construction of housing and facilities having a social purpose, Gosstroy USSR and the construction ministries of the USSR and the Councils of Ministers of the union republics, by agreement with local party and soviet organs, have been tasked with the creation of planning-industrial-construction organizations which are specialized in civilian housing construction in case of expediency in the cities, oblasts, and krais on the base of enterprises of industrial home-building. Subsequently, these organizations are to be transferred to the direct subordination of the corresponding local Soviets of People's Deputies. Here, special attention was paid to the development of services of a single customer and the organization of the overall construction of housing apartments.

The decree requires Gosplan USSR, with participation of Gosstroy USSR, Gosplan USSR, and the construction ministries, to develop and introduce a system for supporting capital construction with material resources which envisions planning and their delivery for the construction of facilities, proceeding from the funds which have been allocated and the requirement determined by the plans, estimates, and title lists of the construction projects, and to accomplish the consistent transition to supporting construction with material-technical resources through territorial organs as wholesale trade, having in mind transferring in 1987 to such a supply procedure the construction organizations located in the Estonian SSR and the Armenian SSR.

Envisioned in the course of the reorganization being conducted is a significant reduction in the number of personnel in the apparatuses of union and republic construction ministries and local construction organizations.

The right has been granted to use a portion of the assets from the savings in the wage fund obtained through a reduction in the number of personnel in the management apparatus for the establishment of increases in the salaries of highly qualified specialists. These increases are cancelled or reduced with a deterioration in the quality of labor, the late accomplishment of tasks, and violations of labor and production discipline.

On Measures for Improving the Management Mechanism in Construction

The decree which was adopted is directed toward the realization of the lines of the 27th CPSU Congress on the basic restructuring of the management mechanism in construction, raising its efficiency, and intensifying the economic motivation of all participants in the investment process in ensuring the putting into operation of production capacities, housing, and other facilities having a social purpose in the normative times.

For these purposes, a number of practical measures have been planned for improvement of the planning of construction production and the expansion of independent labor collectives, the strengthening of contract relations between organizations--customers and contractors, and the development of cost accounting and the collective contract in construction.

A reduction in the number of planning indices is envisioned for the ministries and departments which are accomplishing contract work, the Councils of Ministers of the union republics, and the construction-installation organizations. It was established that the economic standards approved as indices of the five-year plan are not subject to change in the annual plans.

The evaluation of production-management activity of construction-installation organizations when summing up the results of work is accomplished by higher organizations and local organs from the results in the accomplishment of contract obligations for the putting into operation of production capacities, structures, housing, and other facilities with a social purpose, realization of the tasks for profit and growth in the productivity of labor, and volumes of contract work by technological stages and start-up complexes.

Class places in accordance with the results of socialist competition are awarded to collectives of construction-installation organizations which, in the accounting period, ensured the 100-percent putting into operation of the capacities and facilities envisioned by the plan. The payment of bonuses to personnel for accomplishment of the quarterly plans for construction-installation work is accomplished under the condition of the accomplishment of tasks for putting into operation capacities and facilities in the planned quarter.

The Ministries of Construction of the union republics and main territorial and specialized administrations for construction and trusts have been granted the right to approve plans of enterprises and organizations within their jurisdiction, develop and change the structure and staff of the their component

subdivisions, and create, reorganize, and eliminate construction-installation organizations, enterprises, and other subdivisions within the limits of the wage fund calculated in accordance with the standard.

The basic document which regulates the interrelations of the customers and the contractors and determines their mutual economic responsibility for the accomplishment of state plans is the contract agreement for capital construction. After conclusion of the contract agreement the institutions of the banks finance the construction projects continuously on the basis of the approved title lists. Expenditures accomplished by contract organizations at facilities which are not included in the plan and not accepted by the banks for financing are not subject to reimbursement.

To strengthen cost accounting relations, ministries and departments of the USSR and Councils of Ministers of the union republics are required to accomplish, beginning in 1987, the transition to contract prices agreed upon between the customers and the contractors for the construction of enterprises and start-up complexes and facilities using the favorable experience accumulated in the Belorussian SSR and being guided by the decisions which have been adopted which determine the methods for the formation of contract prices for the technical reequipping and modernization of operating enterprises; in 1986-1987 they are to work out price lists and other consolidated estimate standards for the determination of contract prices for mass construction facilities with the period of effect of these price lists and standards for five years. Subsequently, they should be reviewed regularly every five years.

To increase the responsibility of the construction organizations for the introduction of the achievements of scientific and technical progress in construction, it was considered expedient that the working out of the construction portion of operating documentation be accomplished, as a rule, by the planning-research organizations of the construction ministries and departments or, on their orders, by organizations of other ministries and departments. Construction-installation trusts have been permitted to work out, by the forces of planning-estimate offices (groups) within their jurisdiction, planning-estimate documentation for the construction of facilities of their own production base and, by agreement with the customers, for technically simple facilities. When coordinating the annual plans, ministries and departments of the USSR--customers and Councils of Ministers of the union republics, are charged with turning over to the construction ministries and departments in accordance with the established standards the volumes and limits of planning and research work for the working out of the construction portion of operating documentation.

It was established that 25 percent of the savings calculated as the difference between the contract price and the estimate prepared in accordance with blueprints is sent as income for the state budget. The remaining portion of the savings is distributed by the general contractor between the construction, installation, and planning organizations, customer enterprises and organizations, and other participants in the construction with consideration of the specific contribution of each of them to the reduction of the cost and the increase in the volumes of construction.

The decree requires ministries and departments of the USSR and the Councils of Ministers of the union republics, beginning in 1986, to accomplish the stage-by-stage conversion of the construction-installation trusts and organizations equivalent to them, main territorial and specialized administrations for construction, and ministries of construction of the union republics to complete cost accounting and self-financing.

To strengthen cost accounting in the contract organizations, raise the role of the customer in the investment process, and intensify monitoring of the accomplishment of construction-installation work in strict conformance with the contract agreements, construction-installation organizations are allotted their own working capital to cover expenditures on incomplete production, the appropriate procedure is established for the customer to pay for contract work which has been accomplished, banks are granted the right to issue credit to construction-installation organizations for temporary needs, and measures of responsibility of the customer's and contractor's organizations for the failure to put into operation capacities and facilities in the time established by the plan are envisioned. With the early putting of production capacities and facilities into operation, the customers give to the general contractors 50 percent of the profit of the enterprise envisioned by the plan for the period by which construction time has been reduced.

In the case where the customer has disclosed work accomplished with deviation from construction norms and rules, it is not paid for and it is not considered in the volumes of accomplished contract work until the deviations which have been accomplished are eliminated.

The decree determined that beginning with 1987 the financing of state capital investments is accomplished:

--for the construction of new and the expansion of operating enterprises, the title lists for which are approved by the USSR Council of Ministers and Gosplan USSR or by agreement with them--through the customers' own capital and budget appropriations, and for other production construction projects--through the customers' own assets;

--for technical reequipping and modernization of operating production works--through the assets of the production development fund;

--for facilities having a non-production purpose--through the assets of the fund for social-cultural measures and housing construction and the assets of other similar funds and budget appropriations.

With a shortage of their own funds, in accordance with the indicated types of expenditures the financing of capital investments is accomplished through bank credits.

To increase the responsibility of contract construction-installation organizations for the final work results, beginning with 1987 it is planned to change over to the organization of the "turnkey" construction of housing first of all in cities and regions where the services of a single customer have been created.

Envisioned when shaping plans for housing construction for the year 1987 and subsequent years is the customers' transfer to the contract organization of funds for equipment and materials, the numbers of employees, corresponding warehouse facilities, or limits of capital investments necessary for their construction.

Beginning in 1987, Gosstroy USSR, USSR ministries and departments, and the Councils of Ministers of the union republics have been charged with the formation of planning-construction associations as an organizational form which ensures the "turnkey" construction of residential buildings and other facilities having a social purpose and single-type production facilities and structures, and subsequently--big industrial complexes.

To expand the possibilities of the construction-installation organizations in the development of their own production base, it was considered necessary to permit them to create a production development fund. The banks have been permitted to grant the organizations credit for the financing of these expenditures for a period until the formation of the production development fund but, as a rule, for no more than one year. Expenditures for highly effective measures for the technical reequipping and modernization of operating production works and expansion of enterprises of the production base for construction-installation organizations which can be recovered in a period of up to five years may be accomplished by them above the approved limit of capital investments through bank credits.

It was established that assets of the fund for social and cultural measures and housing construction are one of the basic sources of financing for the construction of housing and other facilities having a social purpose for labor collectives of construction-installation organizations. The procedure for its formation has been determined. In the case where the construction-installation organizations have a shortage of funds for the construction of facilities, they are permitted to direct free assets of the material incentive fund and bank credits to these purposes.

To increase the interest of the construction-installation organizations in the development of cost accounting, it was determined to form a material incentive fund through deductions from profit in accordance with the norms established in percentages of it. With the construction-installation organizations' accomplishment of the plan for putting into operation all production capacities and facilities, the planned sum of the material incentive fund is increased by 10 percent.

The decree requires USSR ministries and departments and the Councils of Ministers of the union republics to adopt measures for the wide development, in construction, of the brigade contract and cost accounting and, for these purposes, to restructure the system of management, planning, and motivation of all production elements; they are to ensure the wide dissemination of the work experience of the trusts of Glavmosoblstroy [Main Administration for Construction in Moscow Oblast] with the Moscow Oblast ispolkom and the combined technological flows of the organizations of the USSR Ministry of Construction of Petroleum and Gas Industry Enterprises and other construction-installation in the employment of the collective contract. To increase the labor and credit

activity of the collectives, it was recommended that councils of labor collectives be formed in all production elements--from brigade to the trust as a whole.

USSR ministries and departments, Councils of Ministers of the union republics, and local management organs are forbidden to take to construction-installation organizations indices and standards which are not envisioned by this decree or to introduce additional restrictions on the wage funds and staffs. Limitation of the rights of these organizations, regulation of their activity, and petty guardianship are not permitted. Intradepartmental and intraorganizational monitoring with the broad involvement of the public should be developed.

The decree envisages the accomplishment of measures to increase the mobility of contract organizations and expansion of the practice of involving construction and installation organizations in the accomplishment of work at facilities located outside the sites of their permanent location. It provides for ensuring further development of the watch method as the most progressive form for the organization of labor with the mobile method of work production.

The CPSU Central Committee and the USSR Council of Ministers obliged party, soviet, management, trade union, and Komsomol organizations to conduct organizational and political work for the active introduction, into construction practice, of new forms and methods of management and expressed firm confidence that the labor collectives of construction-installation, planning, and other organizations and enterprises use them for the successful accomplishment of planned tasks for the putting into operation of production capacities, housing, and other facilities having a social purpose in the normative times and for a savings in materials and labor resources, will raise the rates and quality of construction-installation work, and are realizing the lines of the 27th CPSU Congress for a radical improvement in capital construction.

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GOODS PRODUCTION, DISTRIBUTION

CONSUMER TRADE TURNOVER FIGURES, JANUARY-SEPTEMBER 1986

Moscow SOVETSKAYA TORGOVLYA in Russian 14 Oct 86 p 1

[Unattributed Article: "USSR CSA Reports"]

[Text] The commodity turnover of state and cooperative trade from January-September 1986 totaled 245.9 billion rubles, including 67.3 billion rubles in consumer cooperatives' turnover. The plan for retail commodity turnover from January-September 1986 was fulfilled. In comparison with January-August 1985, the retail commodity turnover from January-September 1986 rose in comparable prices by 6.6 percent.

The total commodity turnover growth from January-September 1986 in comparison with January-September 1985 in comparable prices by union republics is characterized by the following data (in percentages):

RSFSR	106.8	Modavian SSR	106.7
Ukrainian SSR	105.9	Latvian SSR	105.8
Belorussian SSR	107.2	Kirghiz SSR	107.8
Uzbek SSR	107.2	Tajik SSR	107.9
Kazakh SSR	106.2	Armenian SSR	108.5
Georgian SSR	106.2	Turkmen SSR	111.1
Azerbaijan SSR	106.1	Estonian SSR	106.2
Lithuanian SSR	107.6		

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CSO: 1827/11

FUELS

UKSSR COAL MINISTER CALLS FOR GREATER COAL OUTPUT

Kiev UGOL in Russian No 8, Aug 86 pp 2-5

[Article by UkSSR Minister of the Coal Industry N. S. Surgay: "A New Surge in the Coal Industry"]

[Excerpt] Based on the creative search of the miners and reinforced by well-thought-out organizational and technical measures and mobilizing incentives, it is necessary to achieve a radical turn for the better. Such is the goal, upon which the fulfillment of plans for the further development of the sector greatly depends. And much has been done and is being done in this area.

The plans are complex and crucial. Over the course of the 12th Five-Year Plan it is essential: to obtain the entire increase in production through raising labor productivity; to increase the quality of coal and to increase the amount of enrichment; to expand the production of coal concentrate for coking, as well as graded coal and briquettes for communal domestic needs and to replace coke; to raise the level of coal production from comprehensively mechanized faces; to raise the level of the combined tunnel workings; to implement a large social program in mining cities and towns and at sector enterprises. Such are the strategic routes for the development of the coal industry of the republic, behind each of which stands a specific cause.

Acceleration--this area includes all measures for backward mines. A group of measures is being taken at 25 mines that did not fulfill the plans for all the years of the 11th Five-Year Plan, so as to catch them up and obtain additional coal production of about 2 million tons. Particular attention is being devoted to mines placed in operation in 1970-85. An increase of 6.6 million tons of fuel is projected for 24 such enterprises.

Work is being actively conducted on preparing extraction segments for equipping with mechanized units of a new technical level in accordance with progressive technological schemes and plans. The level of comprehensive mechanization of production processes at stoping faces will be brought to 70 percent by 1990, and to almost 100 percent at the Krasnoarmeysk, Selidovo, Dobropolye, Pavlograd, West Ukrainian and Aleksandriya Coal and Rovenki and Sverdlovo Anthracite associations. The widespread employment of electricity in place of pneumatic drive has begun in mines with steeply inclined seam beds.

In discussing technical progress, it should be noted that not everything is being done to the fullest extent on the part of machine building for the Donbass, which was and remains the chief coal base of the European part of the country. The creation of new equipment, especially for the extraction of narrow seams, is lagging. This does not permit the radical technical retooling of enterprises. The mechanization of stoping operations on steep dips is being delayed.

The adoption of exhaustive measures for a sharp increase in the efficiency of scientific and technical progress and the achievement on that basis of growth in labor productivity, a reduction in coal cost and improvement in its quality--these are pressing tasks for both scientists and production workers. The 12th Five-Year Plan should be a turning point.

The first way toward resolving our tasks is the vested state interest of all managers and collectives in a continuous search for the efficient utilization of the achievements of science and technology and in a creative return from production innovators and inventors. A situation wherein new equipment demonstrates good results in certain mines and poor ones in others under analogous conditions, especially 1KM-103 and KD-80 cutting units, cannot be tolerated.

The second way is a sharp reduction in the use of manual labor in all production processes. The experience of leading mines, the imeni SOTSIALISTICHESKIY DONBASS Newspaper, the imeni Zasyadko, the imeni Stakhanov and others, proves that much can be done in this area today. Moreover, it is not compulsory to wait for plants to begin the series output of devices and equipment for the mechanization of manual labor. The third way is the fact that new equipment and technology do not appear by themselves, they must be created, tested, brought to perfection and manufactured. It is impossible to take the position of a bystander and wait for someone to do this. Closer and more energetic work with scientists, the organization of testing and perfection of equipment, and the assurance of its timely entry into the conditions where it will produce the greatest return are necessary. Sectorial science, designers and planners have the chief role in this.

The efforts of scientists must be concentrated not only on the major developments, but on the solution of central questions of reducing manual labor, and in particular: the mechanization or elimination of terminal operations at stoping faces on gently sloping and steeply inclined seams; the mechanization of timber delivery in mines with steeply inclined seams; the mechanization of the repair and upkeep of workings; the mechanization of the delivery of freight and materials to stoping and gateway faces and the mechanized delivery of people to the faces. All of the scientific and technical solutions should provide to the fullest extent for the safety and comfort of working conditions and the economy of material, human and raw-material resources and should correspond to or surpass the best world models. Innovative experience, much of which has been accumulated at every association and in every leading mine, is undoubtedly the most accessible reserve for accelerating the rate of coal production and does not require additional expenditures. A deep analysis and a cautious attitude toward the best of the

old should be a required element of the new-style operations. All labor collectives should take part in the study of leading achievements in the organization of labor and production, and especial attention should be devoted to stoping and cutting teams. And although 105 production teams mastered a daily load of more than 1,000 tons, and 14 teams were able to supply an output of 500,000 tons and more a year, this is clearly insufficient.

Some 307 teams are working in rapid mode with an average passage of 185.3 meters a month versus 54.3 for the sector, which is also too few. There are foremen for the rapid conducting of preparatory work who have accumulated considerable experience in practically all the mines, and there must be a decisive transition from conversations about the importance of widely disseminating the experience of the leading workers to its incorporation. An important role should be played here by: the further development and improvement of team forms of organization and labor incentives; efficient work stations according to the results of their certification based on the incorporation of standard plans for labor organization; and, improving the setting of standards as well as the organization of the forms and methods of socialist competition.

The collegium of the USSR Minugleprom [Ministry of the Coal Industry] has established additional conditions of socialist competition for operating without lagging teams and sectors, for the assimilation of standard mine capacities and for the title "Best Sector Chief," the use of which will provide an impetus for the utmost utilization of the potential opportunities of labor competition. The managers of associations and enterprises have been granted a large arsenal of rights and incentives to stimulate conscientious and highly productive labor by the employees. It is necessary, however, to conduct a decisive struggle against unfounded increases in wages and in favor of socialist justice.

All of this should be subordinate to the chief task--raising the labor productivity of the workers. It has fallen systematically over the course of the last ten years, including a decline of 10.9 percent in the 11th Five-Year Plan. A habit has recently taken hold among many managers of exaggerating the difficulties associated with geological conditions and other objective factors that have an effect on labor productivity. This cannot be tolerated. This negative phenomenon is often not fully opposed by an effective scientific and active engineering barrier. Organization, the diversion of workers to peripheral processes and the unsatisfactory utilization of the stoping front and equipment have an effect on labor productivity. Idle time at the faces and losses of production due to this practically did not decline over the five-year plan. The task consists of halting the decline in productivity in the near future and providing for its growth by 1990.

In order to raise labor productivity and improve other economic indicators, especial attention should be devoted to the incorporation of new management conditions, which are directed toward improving planning, accelerating the development and incorporation of new equipment, developing creative initiative and raising the responsibility and vested interest of labor collectives in the results of the production and economic activity of the

enterprises. The introduction of new management conditions beginning on 1 Jan 86 at the Krasnoarmeyskugol Association facilitated an improvement in all the indicators of its activity. The volume of coal production increased by 77,000 tons compared to 1985, average monthly labor productivity per production worker by 1.8 percent, and deductions for the material-incentives fund have increased by 33 percent while the cost of coal has been reduced by 1.12 rubles.

The tasks, functions and responsibilities of the structural subdivisions and responsible officials of the associations and enterprises for the incorporation of the economic experiment have been elaborated, new documents have been incorporated and methodological and standards ones published, and posters and instruction booklets for the sector chiefs, mining foremen, team leaders and workers have been developed and issued in which the basic principles of the economic experiment have been laid out. More than 20,000 employees and members of the engineering and technical staff have studied the new management methods.

Taking into account the fact that all subdivisions of the coal industry will have been converted to working in the new manner starting 1 Jan 87, the ministry and the production associations are analyzing the experience of the Krasnoarmeysk miners in great depth. A specially created commission is coordinating this work, and it is considering and determining specific measures for preparing for the conversion of the whole sector to the new management conditions. An analysis of the work of the Krasnoarmeyskugol Association under the new management conditions showed that the specific features of the coal industry were not fully taken into account in preparing the basic principles for the conduct of the experiment, and issues arose that require resolution. This must be worked on more actively.

Among the most important problems in raising economic efficiency, the most acute and pressing is raising product quality. The quality of coal produced and shipped remains unsatisfactory, even though the consumers are basically supplied with fuel that is at the level of ash content established by the norms. In order to reduce the growth in ash content of the coal produced, the supply of coal that deviates from the requirements of standards and the stabilization of the quality of fuel shipped to consumers must be reduced by no less than 1.5 million tons of coal extracted from seams not conditioned for ash content, and the number of walls on which the work is conducted with the cutting of side rock must be reduced. The ministry, in conjunction with the associations, is conducting the realization of the "Filling" dedicated program--a series of measures for leaving rock in the mine at places where it may fall into the coal streams, which makes it possible to stow up to 10 million tons of rock in the worked space. Methods of chemical strengthening of the side rock are widely employed, new-generation machinery is being incorporated etc. Moreover, without a radical restructuring of the preparation scheme for mining areas and the development and transport systems, as well as without the saturation of walls with new equipment, the acute problem of quality cannot be fundamentally resolved. These problems have been taken into account to the maximum extent in the development of general plans for the placement of mining areas. The same can be said of the plans for new construction. But the consumer needs coal quality today. It is therefore

necessary to activate the whole arsenal of technical and economic means that hinder the growth of ash content in the produced ore body: the separate extraction and transport of coal and rock, a reduction in the extraction volumes from seams not conditioned for ash content, rock sampling, filling, rock support, an increase in the volume of coal enrichment--all of this should be placed in the service of quality.

Great and complex tasks are before the mine construction workers, who must assimilate large capital investments in all areas. In this five-year plan, it is essential to complete the construction of new mines (or phases of them) at: Yuzhdonbasskaya No 3, Komsomolets Donbassa, Sukhodolskaya-Vostochnaya, Voroshilovgradskaya No 1 (Phase III), Samsonovskaya-Zapadnaya (Phase I), Krasnoarmeyskaya-Zapadnaya No 1, Shakhterskaya-Glubokaya, imeni Heroes of Space and imeni Leninist Komsomol. The reconstruction of the existing mines Krasnyy Partizan, No 21 of Krasnokutskaya (Phase II) and imeni 22nd CPSU Congress will be completed. In this five-year plan, it is essential to begin the filling of the new mines Severo-Rodinskaya, Dobropolskaya-Kapitalnaya, Yuzhnodonbasskaya No 4, Krasnoluchskaya-Severnaya, No 3 of the Chervonogradskaya, No 10 of the Novovolynskaya and the construction of the Yuzhnodonbasskaya, Shakhterskaya-Novaya and Zapadnodonbasskaya central enrichment mills.

That is why the construction-industry base requires considerable expansion and reinforcement and why capacity for the output of prefabricated reinforced concrete, metal structural elements, kermazit gravel and wall materials must be expanded. Envisaged for the acceleration of scientific and technical progress in mining construction are: increasing the proportion of progressive types of construction and installation operations by no less than one third and employing the nodal method of the planning, preparation, organization and management of the construction of complicated facilities and major industrial complexes. The volume of vertical-shaft cutting will be brought to 10 km [kilometers] a year, that is, increased by 1.3 times (compared to the last five-year plan), the use of non-traditional supports, by-products of production fluxes and thermal-electric by-products will increase by 5-6 times and progressive building structures, especially light ones, will be incorporated.

Issues of social policy should always be at the center of attention. With the aim of accelerating the solution of the housing problem and the retention of worker personnel at coal industry enterprises, the construction of residential housing using the organization's own resources through state capital investment according to standard plans has been organized in the sector. About 200,000 square meters of living space was placed in service in the 11th Five-Year Plan alone. The experience of residential construction using internal resources accumulated at the mines of the Donetskugol Association was disseminated, where at the mines imeni Zasyadko and imeni SOTSIALISTICHESKIY DONBASS Newspaper, more than 700 apartments with a total area of more than 40,000 square meters were built in the 11th Five-Year Plan alone.

Insofar as the contract organizations of UkSSR Mintyazhstroy [Ministry of Construction of Heavy Industry Enterprises] and UkSSR Minpromstroy [Ministry of Industrial Construction] are not fully meeting the need for residential

housing for coal workers, and with the aim of fulfilling the tasks posed by the party of providing an apartment for every worker in the sector by the year 2000, we are considerably expanding the construction of residential housing using internal resources in the 12th Five-Year Plan. In order to create a base for the construction of residential housing using internal resources, we are participating proportionally in the reconstruction of the housing-construction combines in Donetsk and Vorosilovgrad oblasts, planning the construction of brick plants and shops for the production of particleboard and carrying out the technical retooling of the intrinsic base of the construction industry.

Issues of improving domestic conditions for miners require particular attention. The capital repair of 3.7 million square meters of total residential space is required in the 12th Five-Year Plan along with the improvement of social and cultural facilities and the rendering of paid services of more than 290 million rubles. In conjunction with the local soviets of peoples' deputies, much work will be conducted on the comprehensive improvement of mining cities and towns. A third of the clubs and cultural facilities were built in the pre-war years and do not meet modern requirements; all tourist bases, half of the vacation bases and 13 percent of the Pioneer camps are of prefabricated slabs and wood and are therefore in need of reconstruction. The problems are not simple.

The amount of repair to the housing stock, cultural facilities, clubs and childrens' institutions should be increased in the future, the above-plan fund for material and financial economy should be utilized more broadly and the general public and labor collectives should be drawn into the resolution of these issues. Today, as never before, attention is sharpening toward an economical and thrifty attitude toward all types of resources. The realization of the course projected by the party for resource conservation, a reduction of materials consumption and the use of secondary resources in production will be continued in the sector in the 12th Five-Year Plan with ever greater persistence. The matter must be made such that not a single kopeck of the people is squandered to no purpose and so that any attempts at exaggerating or distorting reporting and of misappropriation be decisively halted. To know and manage economics and to master the art of economic accountability to perfection is the first duty of the manager.

Especial attention is devoted to the development and incorporation of fundamentally new types of equipment and technology that ensure the efficient use of fuel, power, material and labor resources. The realization of the republic Power-Complex Program has great significance in accelerating the creation and incorporation of resource-conserving technology. More than 75 percent of the measures included in the program for the 12th Five-Year Plan are directed toward resolving issues of economizing fuel, power, material and labor resources.

Within the framework of the Power-Complex Program, 1KM-103 and KD-80 mechanized stoping complexes of a new technical level, which permit the mechanization of production in thin seams and in that way reduce the contamination of the coal with rock, were created and have begun to be used in the mines. Hydraulic props developed by Donugi [Donets Scientific Research

Institute of Coal] with external or closed power systems with a resistance of 3 meganewtons are replacing individual support props and caving pedestals. The use of the new props will conserve 5 tons of metal on each longwall.

The process of supporting unstable rock and coal with synthetic hardening solutions is being incorporated to avert cave-ins of rock on longwalls. The use of this process on 152 faces in the first half of the year allowed an economy of about 15,000 cubic meters of timber for building protective cribs. Pneumatic cribs were successfully employed in mines working on steeply inclined seams, which allowed the economy of 5,000 cubic meters of timber over the six months.

The institutes of the UkSSR Minugleprom devote especial attention in their research to operations directed toward conserving resources and reducing the materials consumption of production. Some 14 most important programs have been developed, on the resolution of which the particular attention of scientists has been concentrated in the 12th Five-Year Plan. The realization of the programs will produce an economy of 175,000 cubic meters of forest products, more than 100,000 tons of metal, about 350,000 kWh [kilowatt-hours] of electric power and almost 25,000 cubic meters of drinking water.

The development of operations for the combustion of non-conditioned coal in boilers with low-temperature "fluidized-bed" furnaces, which make possible the combustion of coal with an ash content of up to 70 percent, is being carried out. Some 41 such boilers are now in operation. The conversion of 180 boilers to the new technology is projected for the 12th Five-Year Plan, including roughly half of them in 1986. The saving from the realization of these measures will total about 350,000 tons of standard fuel.

Success in resolving economic, social and political issues depends to a great extent on personnel. The number of specialists in the sector increased over the 11th Five-Year Plan. The make-up of management at principal production links was strengthened. The issue of the stability of personnel is nonetheless not yet resolved. The chief shortcoming is great replaceability. Matters must be arranged so as to support, teach and assist specialists so that they have confidence in their work, so that they grow, since order and discipline in immediate production and the unswerving observance of equipment safety rules and labor protection depends greatly on them.

The powers and rights of associations and enterprises in the resolution of tasks of technical progress, social and economic development and raising vested interest and moral incentives are being expanded. The labor collective is becoming the chief link in the resolution of practical issues, and great responsibility is being entrusted to it. At the same time, the role of economic managers, one-man management and the independence of executors is not being reduced. The discipline of the law and the plan cannot be violated under any circumstances and under any so-called pretexts. Democratic principles must be sensibly combined with personal responsibility, free discussion with the discipline of all executors. "A humane and comradely attitude toward each other is needed," emphasized CPSU Central Committee General Secretary M. S. Gorbachev during his visit to Khabarovsk Kray. "A respectful one. This does not mean that we will pay compliments or say

certain pleasantries. No. It must be as it is in life. A person errs--correct him. He responds--support him. He behaves outrageously--put him in his place. If he begins to take a criminal path, a path of abuse--make use of the law." A work style must be confirmed everywhere that is based on such most important requirements as good organization, initiative, a business-like manner, competence, discipline and the personal responsibility of each for the matter entrusted to him.

The miners of the republic will do everything that depends on them so as to accelerate the development of the sector, ensure the fulfillment of the plans and socialist obligations for 1986 and the five-year plan overall and meet in a worthy manner the 70th anniversary of the Great October Socialist Revolution and the 65th anniversary of the formation of the USSR.

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PIPELINE CONSTRUCTION , OPERATION

UDC 621.643.002.2+658.5

ORGANIZATIONAL IMPROVEMENTS IN HIGH-SPEED CONSTRUCTION URGED

Moscow STROITELSTVO TRUBOPROVODOV in Russian No 9, Sep 86 pp 3-8

[Article by I. I. Mazur, Deputy USSR Minister of Construction of Petroleum and Gas Industry Enterprises] and V. P. Sidorenko (VNIIPKtekhorgneftegazstroy [All-Union Scientific-Research and Industrial-Design Institute for the Technology and Organization of Construction of Oil and Gas Industry Enterprises]): "Improve the Industry's System for Organizing High-Speed Flowline Construction"; capitalized passages published in boldface]

[Text] High-Speed Flowline Construction--Experience and Prospects

The 27th CPSU Congress set the task of reducing 1.5-fold to 2-fold during the next decade the time spent erecting and rebuilding facilities. Achieving the assigned goal will require the mobilization primarily of reserves that exist in organizational, economic and social factors. One of the areas that will permit more complete use of the potential of the indicated factors is the wide introduction and further improvement of the high-speed flowline construction method.

Assimilation of this method for erecting the six-strand gas-transport system from Urengoy to the country's central regions during the 11th Five-Year Plan provided for the introduction into operation ahead of schedule of trunk gas pipelines totaling 20,000 km in length and enabled delivery to the national economy of about 15 billion additional cubic meters of natural gas. The gas pipelines of this system were erected practically 2-fold to 3-fold more rapidly than the standard--240-250 km of lines were laid per month. The average annual productivity of advanced production formations--integrated flowline pipeline construction groups (KTP's), which were created for the purpose of supporting the high-speed flowline construction method, exceeded 100 km.

However, a further intensification of production during the 12th Five-Year Plan is complicated: on the one hand, by the ever-increasing remoteness of the raw-materials base in West Siberian and Far North regions which are difficult of access, and, on the other, by the change in structure of oil and gas construction work, including line-type construction. Despite a total increase of 41.6 percent in construction work for erecting line facilities, the share of construction of pipelines within the fields rose from 35.6 percent to 52 percent. In so doing, in West Siberia alone, 40,000 km of oil or gas field pipelines will be built during the 12th Five-Year Plan, or about 34 percent of the total planned volume. Because of this, fulfillment of the

Minneftegazstroy [Ministry of Construction of Petroleum and Gas Industry Enterprises] production program for line construction will depend upon how completely and promptly we succeed in disseminating experience in the flowline erection of medium- and small-diameter pipelines, and, on the whole, of completing the formulation of a branchwide system for organizing high-speed flowline construction (OPSS). The basic solutions of branchwide problems of organizing high-speed flowline construction that were found during the erection of specially built facilities during the 11th Five-Year Plan must be developed creatively and be individualized with regard to middle and lower management levels. Functional departments and services of main administrations should aim for an integrated approach to the solution of questions of planning, incentives and resources support of the activity of trust production formations--the KTP's.

The erection during the 11th Five-Year Plan of a gas-transport system in a single energy corridor opened up, in essence, a new stage in the development of high-speed flowline construction. This stage was marked by two basically new elements: the execution of construction mainly by new production formations of the trust--cost-accountable integrated flowline pipeline construction groups, and the conduct of simultaneous operations on two gas pipelines under a simultaneous-and-consecutive scheme for organizing production.

The dynamics of high-speed construction of the gas-pipeline system by integrated flowline groups during the 11th Five-Year Plan are shown in figure 1. Erection of the transcontinental Urengoy-Pomary-Uzhgorod gas pipeline and the Urengoy-Tsentr Nos 1 and 2 trunk gas pipeline gave new impetus to the development of high-speed flowline construction. As many as 50 of the new type flowline construction groups operated simultaneously on these gas pipeline routes.

The new type KTP's are formed organizationally with a single production system--an aggregation of the trust's highway-transport, engineering, and construction-and-installing subunits. This KTP enabled the whole set of operations for erecting gas pipelines to be carried out in the required sequence. Road and transport operations were executed initially, somewhat ahead of time, by separate specialized sections, then the line route was prepared, after which the basic line operations of erecting the gas pipeline and testing it were carried out. All the KTP's subunits were specialized by individual stage. As a result, preparation for flowline performance of the work and the required construction pace were provided for.

THE ERECTION OF TRUNK GAS PIPELINES BY THE NEW TYPE OF FLOWLINE CONSTRUCTION GROUPS IS AN EXAMPLE OF THE INTENSIVE USE OF THE PRODUCTION POTENTIAL OF CONSTRUCTION SUBUNITS AND, AT THE SAME TIME, THESE WERE A SORT OF STARTING POINT FOR FURTHER TECHNICAL PROGRESS IN ORGANIZING THE CONSTRUCTION OF PIPELINE SYSTEMS.

The KTP attained its organizational and managerial development during construction of the Urengoy-Tsentr Nos 1 and 2 gas pipelines as the result of the broad conduct of a series of experiments. An analysis of flowline-group activity during the erection of these trunk lines in a single energy corridor allows the conclusions to be drawn that the KTP's reached the high and stable indicators that mark the high production possibilities of the new formations. Thus, the average length of the section erected by one flowline group was

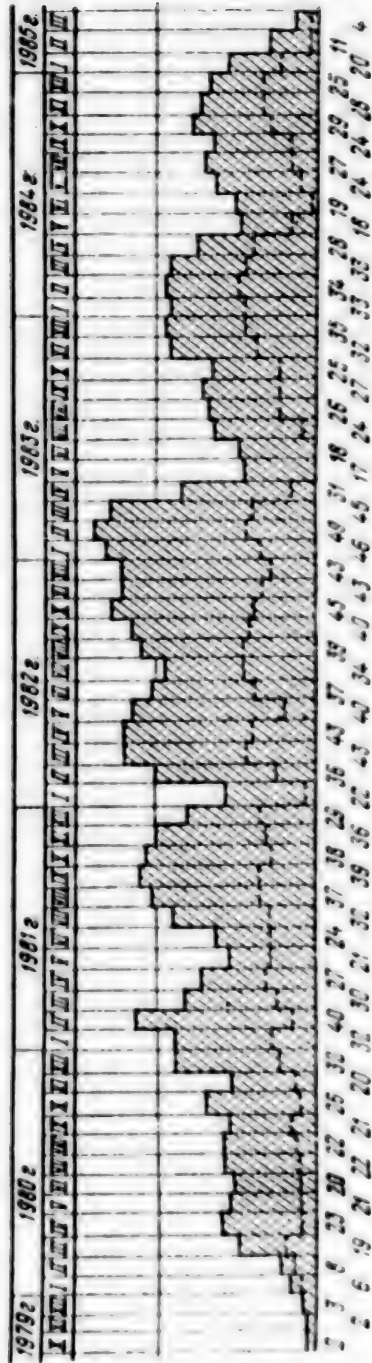


Figure 1. Dynamics of the Operation of Integrated Flowline Groups During the Construction of Gas Pipelines During the 11th Five-Year Plan.

Key:

The solid line is the total number of flowline groups.

The broken line, which is included in the total, shows the number in the taiga-and-swamp zone (beginning January 1980 it comprises, respectively, 4, 6, 8, 4, 4, 4, 4, 4, 4, 5, 6, 4, 5, 10, 11, 6, 10, 13, 12, 12, 12, 14, 14, 12, 13, 14, 2, 10, 16, 13, 7, 12, 17, 17, 16, 15, 12, 11, 13, 17, 15, 6, 0, 0, 3, 9, 9, 9, 14, 17, 17, 18, 17, 15, 16, 1, 4, 6, 6, 12, 12, 10, 1 and 1).

78 km, exceeding 1.7-fold the same indicator for the Urengoy-Gryazovets gas pipeline. In terms of cost, the average flowline group did 30-35 million rubles' worth of construction and installing work. The average monthly pace of construction of this section of gas pipelines reached 10.7 km. The average time taken by one flowline group to carry out the basic line operations was 7.2 months. Output per worker reached 0.025 km, per blue-collar worker 0.040 km. The flowline group's productive activity was marked by a steady reduction in labor expenditure by an average of 16.8 percent in comparison with the plan's indicators. The full labor consumption for erecting 1 km of gas pipeline was 1,085 man-days, while 1,227 man-days were spent erecting the Urengoy-Novopskov gas pipeline. The power-worker ratio for flowline work has doubled 1980's and it now is 67-69 kWt/person.

THE CREATION OF KTP's--HIGHLY PRODUCTIVE FORMATIONS FOR HIGH-SPEED CONSTRUCTION--FOREORDAINS A NEW SCHEME FOR ORGANIZING CONSTRUCTION: THE SIMULTANEOUS AND CONSECUTIVE SCHEME. This one assumes the pursuit of work on a new gas pipeline prior to the completion of construction on the preceding one, which permits the uniform distribution timewise of the amount of work being done. Thus operations were performed simultaneously for six months on the Urengoy-Tsentr Nos 1 and 2 routes. More than 42 percent of their total length was constructed during this period. Total duration of construction of the Urengoy-Tsentr trunk line was 19 months, that is, the average time spent erecting each of the two strands did not exceed 10 months, while construction of the Urengoy-Pomary-Uzhgorod gas pipeline took 12 months.

Thirty-eight flowline groups built the Urengoy-Tsentr No 1 gas pipeline and, later, the Urengoy-Tsentr No 2 gas pipeline.

Erection of the West Siberian section of the Urengoy-Tsentr Nos 1 and 2 gas pipelines was assigned to two main administrations: Glavsibtruboprovodstroy [Main Administration for Pipeline Construction in Siberia] and Glavvostoktruboprovodstroy [Main Administration for Pipeline Construction in the Eastern Regions]. Glavsibtruboprovodstroy production subunits did construction work in the northern zone, those of Glavvostoktruboprovodstroy primarily in the taiga-and-swamp zone. Analysis indicated that the average length of a section erected by one flowline group was 61.5 km in the north, 91 km in the taiga-and-swamp zone. Average monthly performance of the basic line operations reached 16.04 km in the northern section, 13.1 km in the taiga-and-swamp section. The average indicator for the branch was 14.2 km.

Seasonality in the performance of construction and installing work was characteristic of the northern zone. Thus, Glavsibtruboprovodstroy began in September 1983 the erection of a section about 930 km long. By October eight flowline groups had undertaken the construction of said sections, while in March 1984 the whole 12 flowline groups had completed the basic line operations. In so doing, many KTP's reached record productivity--up to 26 km per month, which enabled the flowline groups to carry out construction work simultaneously on the two Urengoy-Tsentr trunk pipelines in one winter season. SUCH A HIGH PACE OF OPERATION IS EXPLAINED PRIMARILY BY THE ADVANTAGES AND HIGHER PRODUCTION POTENTIAL OF FLOWLINE GROUPS THAT HAVE BEEN FORMED ON THE BASIS OF CONSTRUCTION ADMINISTRATIONS. Of Glavsibtruboprovodstroy's 12 KTP's, only two flowline groups were within the organizational structure of a trust.

LOST IN THE DISASSEMBLY, HAULAGE AND ASSEMBLY OF FIELD HOUSING SETTLEMENTS, WAREHOUSES, PIPE-WELDING AND PIPE-PREPARATION BASES, AND A GREAT CUT IN THE TIME SPENT REDEPLOYING THE FLOWLINE GROUPS, which affected favorably the dates for starting operations on the Urengoy-Tsentr Nos 1 and 2 routes. The presence of passageways and access roads along the route, thanks to which additional time and resources did not have to be spent on erecting them, affected in the final analysis the flowline groups' productivity in carrying out the basic line operations.

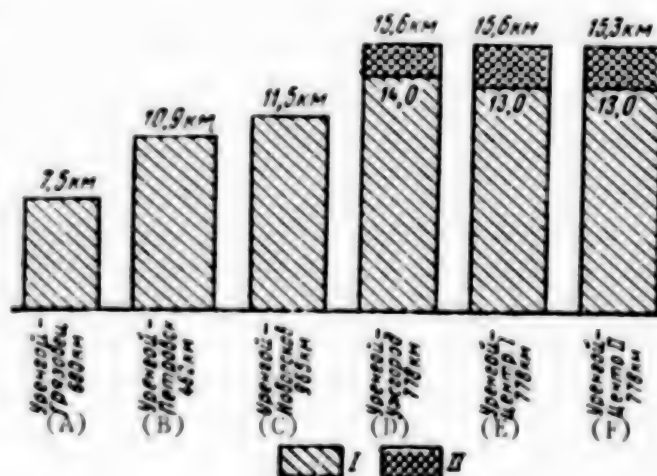
THE SUCCESSFUL CONDUCT IN 1982-1985 OF LARGE-SCALE EXPERIMENTS ON OPTIMIZATION OF THE COMPOSITION AND STRUCTURE OF FLOWLINE GROUPS, ON CONVERSION TO THE NEW FORMS OF ORGANIZATION AND WORK INCENTIVES, AND ON THE SEARCH FOR PROGRESSIVE WAYS AND METHODS FOR DOING THE WORK EXERTED A DEFINITE EFFECT ON THE FORMATION OF THE KTP OF THE NEW TYPE AND ON RAISING ITS PRODUCTIVITY.

Glavtruboprovodstroy did purposeful work on improving pipeline construction by integrated flow-operations groups for 3 years, beginning with erection of the transcontinental Urengoy-Pomary Uzhgorod gas pipeline. The dynamics of the flowline operating groups is shown in figure 2. A new era in the productive activity of the main administration, which is marked by expansion of the area of application of the high-speed flowline method and by gradual full transition to construction of the final product by flowline groups, has now set in. The start of the new period is associated with the creation and the creative development by Glavtruboprovodstroy of a subsystem for organizing high-speed flowline construction, which is a component element of the like-named branchwide system that is being formulated.

Figure 2. Diagram of the Average Monthly Productivity of Flowline Groups (in km) of Glavtruboprovodstroy [Main Administration for Pipeline Construction] During Construction of the Most Important Gas Pipelines of the 11th Five-Year Plan.

- I. By main administration.
- II. By flowline group working under the experiment.

- A. Urengoy-Gryazovets, 680 km.
- B. Urengoy-Petrovsk, 462 km.
- C. Urengoy-Novopskov, 965 km.
- D. Urengoy-Uzhgorod, 778 km.
- E. Urengoy-Tsentr No 1, 778 km.
- F. Urengoy-Tsentr No 2, 778 km.



The multiple-purpose "Integrated Program for Improving the Organizational Structure and the System for Current Control and Low-Level Planning, Based upon Integrated Industrial-Type Flowline Groups" was developed by the main administration and has been implemented since 1985.

The preparatory work on converting Glavtruboprovodstroy to the new organizational structure has now been basically finished: the number of flowline

Glavvostoktruboprovodstroy's KTP's undertook operation in the taiga-and-swamp zone in May 1983, and in June eight flowline groups had already been activated for erection of the Urengoy-Tsentr No 1 gas pipeline, while in April 1984 the construction and installing work was basically completed throughout the entire section. This section is marked by complicated terrain--many swamps, much rocky soil and a mountainous region. Here the maximum length of sections erected per flowline group averaged 90-95 km. Meanwhile, the average for the branch was 72 km.

The maximum number of active flowline construction groups (that is, those that finished work on the Urengoy-Pomary-Uzhgorod gas pipeline and started to erect the Urengoy-Tsentr No 1 gas pipeline existed in October-November 1983, when the main administrations had mobilized their resources completely. Some flowline groups completed operations on their sections well ahead of schedule (for example, the KTP's of Glavsibtruboprovodstroy), and in April-May 1984, 33 flowline groups had completed the construction of their sections on the Urengoy-Tsentr No 1 gas pipeline and were redeployed to the Urengoy-Tsentr No 2 route.

Despite the fact that erection of the Urengoy-Tsentr No 2 trunk line section, which was passing through permafrost regions and the taiga-and-swamp zone, was being executed in an unfavorable period (between seasons), the average pace of the flowline construction groups that did the construction and installing work here was 16-17 km per month. This, in its turn, enabled the KTP's to come up to the average monthly productivity for the branch that was achieved during construction of the Urengoy-Tsentr No 1 gas pipeline and to complete on time erection of the Urengoy-Tsentr No 2 trunk line and the socialist commitments they had adopted.

It was found that on the Urengoy-Uzhgorod and Urengoy-Tsentr Nos 1 and 2 routes, the largest amount of work and the highest production pace were achieved in the winter. In the taiga-and-swamp zone the "summer" share was about 1.1-3.3 percent of total construction time.

A comprehensive analysis that was conducted of the work of all 38 KTP's of the three main administrations during erection of the Urengoy-Tsentr No 2 gas pipeline indicated that the contractual relationships within the main administration's subunits were as follows. The general contractor which concluded the contract with the client was the trust, which, by agreement, transferred a portion of the general contractor's functions to one of its subunits (administrations or the KTP's) that were doing the construction. Depending upon the degree of integration of the general contracting administration, it acquired other trust subunits in order to carry out separate types of operations and it concluded an intratruster contract agreement for the subcontract.

An analysis of the data on the number of flowline groups on the route, the dates of completion of the operations, and the productivity achieved allows the conclusion to be drawn that the work at the Urengoy-Tsentr No 1 gas pipeline proceeded flexibly and within short periods, despite the fact that some portion of the labor resources and construction equipment still remained on the Urengoy-Pomary-Uzhgorod route. DEPLOYING THEM IN A MULTISTRAND CORRIDOR ON CERTAIN SECTIONS OF THE ROUTE WAS OF GREAT IMPORTANCE IN INCREASING THE FLOWLINES' PRODUCTIVITY. THIS ENABLED REDUCTION OF THE TIME

operating groups has been determined by trust and SMU [construction and installing administration]. The composition of flowline groups has been approved by brigade, and biennial planning of flowline group workload by specific facility has been introduced with a breakdown by quarter, with monthly work scheduler and low-level planning for the basic technical and economic indicators.

In due time, reorganization of the line-type trusts into integrated trusts created the grounds for converting to the construction of pipelines by the high-speed flowline method. At that stage of the development of high-speed construction by integrated flowline pipeline-construction groups, a structural rehashing was required at the lower levels.

From this point of view, Lenzaspetsstroy [Leningrad Trust for the Construction of Special Gas-Industry Facilities] (see the table) has the most progressive organizational structure. Four integrated pipeline administrations were created within the trust, within each of which up to three KTP's were established that specialized in the erection of large-, medium- or small-diameter pipelines. Motor-transport, repair and other types of support for effective KTP operation in the trust were centralized in specialized administrations (CM's [mechanization administrations], ATK's [motor-vehicle transport offices], ZTK's [production-equipment outfitting administrations] and others).

Structure of Lenzaspetsstroy [Leningrad Trust for the Construction of Special Gas-Industry Facilities]

Subunits for basic operations			Subunits of the production infrastructure
Integrated pipeline administration	KTP	Mobile mechanized column	Motor transport column--motor pools
SP-10	T-7 T _g -13 T _g -1	Quality-control section	Production-equipment outfitting administration
SP-1	T-4 T _g -14	Electrochemical protection	
SP-5	T-18 T _g -15	Mechanization administration	
SP-3	T-26 T _g -7		
Construction and Installing Administration No. 1			

ATK subunits--motor pools that completely satisfy the motor-transport needs of the administrations and KTP's--are dispersed along the places where integrated SMU's are deployed. The areas for repair bases, machine-tool equipment, and warehouse and storage premises, which previously belonged to the SMU, are within the jurisdiction of the mechanization administration (CM), which was created in 1984. At present the CM works on the technical servicing and repair of about 90 percent of the domestic-vehicle fleet. Thanks to the well-adapted work of the CM, for the trust as a whole the time that vehicles spend in repair has been reduced and the operational readiness of the construction equipment raised. In May 1986 the service for

monitoring work quality was centralized. A quality-control section (UKK) does centralized monitoring over all stages of erection of pipelines and of surface facilities and of the in-house construction of the trust, based upon the rights of a subcontract.

Thanks to the reorganization, Lengazspetsstroy overfulfilled its 11th Five-Year Plan for introducing facilities by 13 percent, which is about 50 million rubles. Output per worker rose from 29,000 rubles in 1981 to 58,600 rubles in 1987, and the rate for labor-productivity growth reached 167.1 percent.

During the period of construction of the Urengoy-Pomary-Uzhgorod, Urengoy-Iscad and Yamburg-Yelets No 1 gas pipelines, the productivity of the KTP's rose 1.8-fold, each flowline group released from 40 to 70 persons, the prime cost of the gas pipelines was reduced 5,000 rubles per kilometer. The trust's KTP's were serviced by the superintending UM section and the superintending subunits of the quality section, according to the motor-transport brigades to which they were assigned. Nine flowline groups are now working within the trust. All the flowline groups have been converted to the brigade contract, while four flowline groups are working under a single job order. In 1987, the conversion of 100 percent of the flowline groups to a single job order, taking into account the forming of new KTP's, is planned.

Lengazspetsstroy's experience confirms the principle formulated by the industry's leadership about the necessity for reorganizing specialized construction and installing administrations into integrated administrations, for the complete and successful introduction of the new type KTP's. Experience in the construction has indicated that the economic mechanism of the introduction of SMU at this stage stimulates to the greatest degree the growth in labor productivity, an increase in the pace of and a reduction of the time spent on construction, and a rise in the indicators of the KTP's work effectiveness.

The complete redistribution of resources among specialized SMU's and reorganization of them into integrated SMU's was impossible and undesirable, for a number of operating and social reasons. Integrated industrialized flowline groups were formed and specialized brigades attached within one SMU successfully. Glavtruboprovodstroy in the amount of 1-3 KTP's per trust per year. Consequently, in some KTP's, in a certain period of time, various types of installations, depending upon the profile of the general contracting organization, will be performed by brigades of subcontracting administrations, which are operationally subordinate to the general contractor. It is important that such flowline groups, which are related in principle to traditional type formations, be moved around facilities in unchanged composition, be deployed in single premises, and work under the start-to-finish brigade-contract method under a single schedule. Observance of the principle of the "longevity" of traditional type flowline groups will facilitate their subsequent reorganization into integrated flowline groups.

IMPROVING THE ORGANIZATIONAL STRUCTURE OF LOWER ELEMENTS CALLS FOR THE WIDE USE OF PROGRESSIVE FORMS OF WAGES AND WORK INCENTIVES BY CONVERTING FLOWLINE GROUPS TO THE SINGLE JOB ORDER SYSTEM, WITH LINE-TYPE ENGINEERS AND TECHNICIANS INCLUDED IN IT. THIS CREATES AN ECONOMIC MOTIVATION FOR

ACHIEVING THE MAXIMUM RATE OF LINE CONSTRUCTION AND FOR FULFILLING SPECIFIC TASKS IS THE SHORTEST OF PERIODS AT MINIMAL COST.

While experiments in converting to the single job order were carried out during the 11th Five-Year Plan, Glavtruboprovodstroy is calling for it to be introduced into the practice of all the lower collectives during the 12th Five-Year Plan. In 1985, six flowline groups in the main administration worked on 1,420-mm diameter pipelines under a single job order. By 1990 it is planned to cover 60 KTP's with the single job order, 29 of which will be heavy, 17 medium and 20 small KTP's. As a result, 1,400 people in all should be released during the five-year plan, by raising the labor productivity of flowline groups that are working under the single job order.

SOME OF THE MOST IMPORTANT PREREQUISITES FOR EFFECTIVE WORK BY INTEGRATED FLOWLINE PIPELINE-CONSTRUCTION GROUPS ARE THE CORRECT PLANNING OF THEIR LOADS AND THE PROVISIONING OF A CONTINUOUS FRONT FOR OPERATIONS IN ACCORDANCE WITH THE STATE OF EQUIPPING AND ANNUAL PRODUCTIVITY. For this purpose, Glavtruboprovodstroy is developing a five-year plan which determines the prospects and detailed plans for a two-year period concerning the movement (and workload) of flowlines by job.

The trusts set annual and quarterly plans for the main technical and economic parameters for each KTP, based upon approved schedules for the movement of flowline groups. As a result, lower-level planning is improved, as is the accuracy for plan computations, which are oriented to the final construction product, and the necessary prerequisites are created for increasing the effectiveness of the KTP's work.

In this regard, it is desirable to examine the activity of individual KTP's at the main administration. Over a period of several years, flowlines T-2 of Mosgasprovodstroy (Moscow Trust for the Construction of Gas Pipelines) and T-1 at the Welding and Assembly Trust have been marked by high production potential and good work indicators. In erecting the Urengoy-Tsentra No 2 gas pipeline, these flowline groups achieved the highest pace of work performance (up to 300 km per year). The prime cost of construction and installation work was cut 5 percent, labor expenditure dropped 16 percent, and output per worker grew 18 percent in comparison with similar indicators achieved on the Urengoy-Tsentra No 1 gas pipeline. In erecting the Urengoy-Tsentra No 2 gas pipeline, the annual economic benefit in the form of above-plan profit was 11,000 rubles for the KTP's T-2 and 926,000 rubles for T-3.

11. The Branch's System for Organizing High-Speed Flowline Construction.

Turning the branch's system for organizing high-speed flowline construction (Figure 1) proved to be the determining influence on introducing ahead of schedule the trunk gas pipelines erected during the 11th Five-Year Plan. The USSR system was designed for the development and realization of mutually related measures aimed at further intensifying oil and gas facility construction, primarily by special aggregation of the trust's subunits, a rise in the degree of integration of the work being performed, intensification in the concentration of resources, and introduction of brigade forms of organization and of other incentives.

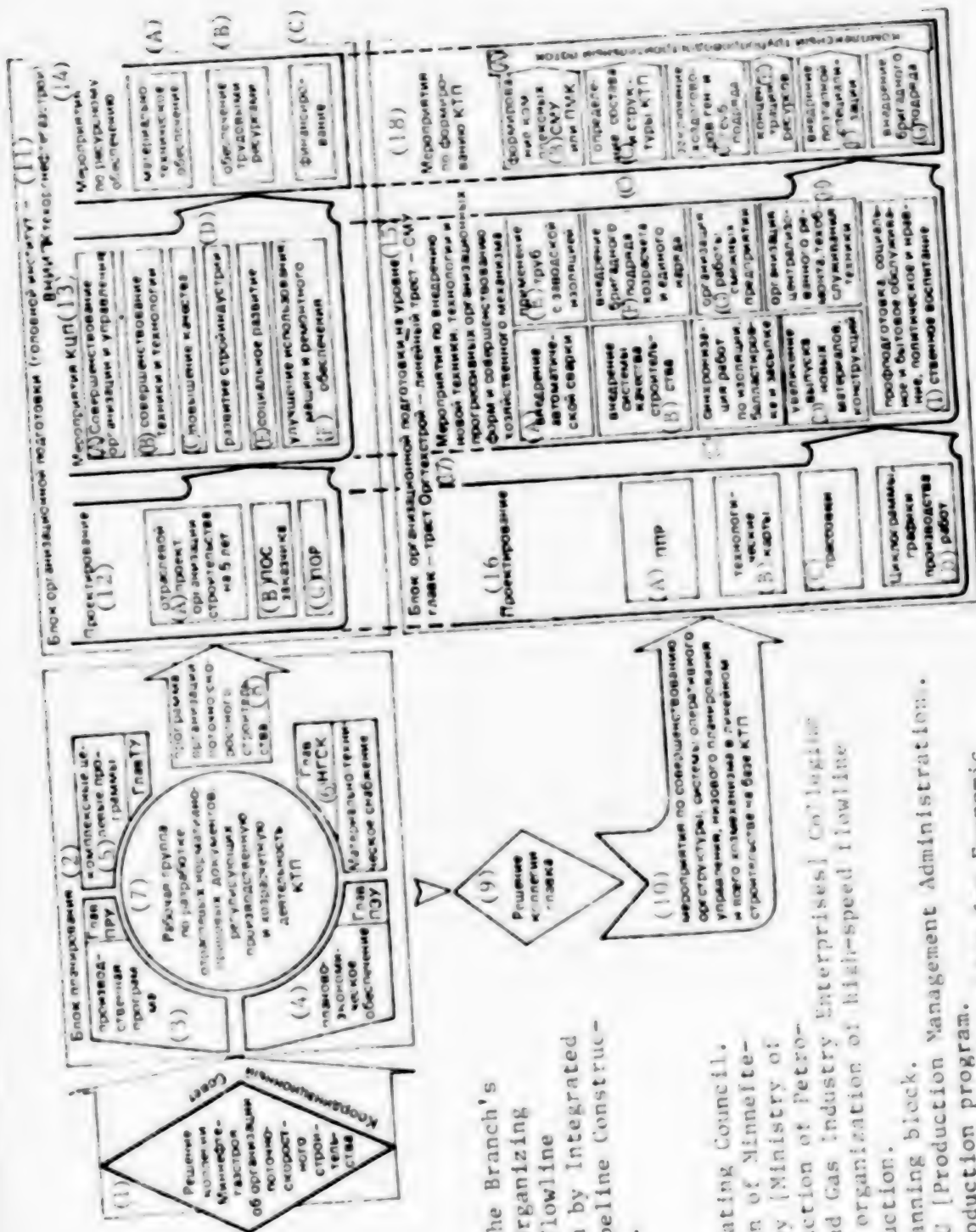


Figure 3. The Branch's System for Organizing High-Speed Flowline Construction by Integrated Flowline Pipeline Construction Groups.

Key:

- Coordinating Council. Decision of Minneftegazstroy (Ministry of Petroleum and Gas Industry Enterprises) College on the organization of high-speed flowline construction.
- The planning block. GlavPRU [Production Management Administration]. The production program.
- GlavPEU [Main Administration for Economic Planning]. Economic planning for Engineering).
- GlavTU [Main Administration for Engineers]. Integrated specific-purpose programs.

[Key continued on next page.]

[Key to figure 3, continued]

6. GlavNOSK [Main Administration for Supply and Outfitting of Oil and Gas Industry Construction Enterprises]. Materials and equipment provisioning.
7. Working group for development of the branch's legal and standards documents that regulate the production and cost-accounting activity of the KTP's [integrated flowline pipeline-construction groups].
8. Program for organizing high-speed flowline construction.
9. Decision of the main administration collegium.
10. Measures for improving the organizational structure, the system for current control, low-level planning, and the whole economic mechanism during line construction, based upon KTP's.
11. Block for organizational preparation--Chitstekhorgmetgazstroy [All-Union Scientific-Research and Industrial-Design Institute for the technology and Organization of the Construction of Oil and Gas Industry Enterprises] is the prime institute.
12. Design.
 - A. Branch design for the organization of construction for 5 years.
 - B. The client's POS [design for the organization of construction].
 - C. The POR [work organization design].
13. KTsP [integrated specific-purpose program] measures.
 - A. Improvement of organization and control.
 - B. Improvement of equipment and technology.
 - C. Improvement of quality.
 - D. Development of the construction industry.
 - E. Social development.
 - F. Improvement of machinery utilization and repair support.
14. Measures for providing resources.
 - A. Provisioning of materials and equipment.
 - B. Provisioning of labor resources.
 - C. Financing.
15. Block for organizational preparation at the main administration-State Trust for Industrialization of Construction work-line trust-construction and installing administrative level.
16. Design.
 - A. PPR [work plan].
 - B. Flow sheets.
 - C. Routings.
 - D. Sequence diagrams and schedules for doing the work.
17. Measures for introducing new equipment, technology and progressive organizational forms and for improving the economic mechanism.
 - A. Introduction of automatic welding.
 - B. Introduction of the construction-quality system.
 - C. Synchronization of the operations of insulating, ballasting and backfilling.
 - D. Increase in the output of new materials and structure.
 - E. Use of pipe with mill-applied insulation.
 - F. Introduction of the brigade contract and the single job order.
 - G. Organization of the work of related enterprises.
 - H. Organization of the centralized repair and technical servicing of equipment.
 - I. Vocational training, social and domestic amenities servicing, and political and morale indoctrination.

[Key continued on next page.]

18. Measures for forming KIP's.

- A. Integrated flowline pipeline-construction group.
 - B. Forming of integrated SMU's (construction and installing administrations) and RAK's (mobile mechanized columns).
 - C. Determination of the composition and structure of KIP's.
 - D. Conclusion of economic agreements for general contracts and subcontracts.
 - E. Concentration of resources.
 - F. Introduction of gradual specialization.
 - G. Introduction of the brigade contract.
-

During the period of erection of the Irenгой-Isentr Nos 1 and 2 gas pipelines, the structure and composition of the various elements of the branch's system for OPSS still had not attained their full organizational, economic and legal form. The job of improving it further was an extremely complex and multifaceted one, which required a substantial accumulation of experience and study and generalization of it. Therefore, it is now necessary first of all to increase the effectiveness of the functioning of the system's component elements. The interrelationships of the tasks being resolved at the various levels of administration during an accelerated assimilation of new equipment and technologies and the wide introduction of the brigade contract must be established with precision and in detail. It is important to determine the place and the role of the various stages in the structure of high-speed flowline construction. The principles of optimizing the composition of the KIP's must be formulated.

The branch's system was created under the influence of the accelerated introduction of progressive forms and methods for organizing construction that were called for by the CPSU Central Committee Decree, "The Work of the Ministry of Construction of Petroleum and Gas Industry Enterprises on the Technical Reequipping and Introduction of Progressive Methods for Construction Operations." The complex of technical, economic and organizational measures was realized on the basis of the principles of specific-purpose program control. The scientific and equipmental basis for creating the OPSS system was the development of 23 All-Union and 20 branch specific-purpose programs.

The successive development and purposeful introduction of various elements of OPSS will, in the final analysis, enable the entire branch system to be formed. The forming of the technical and technological base for high-speed flowline construction called for by this system, by industrializing, integrating, mechanizing and automating, is aimed at further reequipping the branch through the development and introduction of new construction machinery and mechanisms (earthmoving, transporting, welding and others) of high unit capacity. While reequipping the branch, mutually related sets of construction equipment have been created that meet the requirements of flowline construction of operations for various natural and climatic conditions. The introduction of such complexes helped to increase the power-worker ratio almost 1.5-fold and the machine-pool utilization factor in terms of time by 13 percent more than at the start of the 10th Five-Year Plan. For each percent of increase of the capital-worker ratio, labor productivity grew 0.8 percent during the 11th Five-Year Plan, which is 35 percent higher than during the 10th Five-Year Plan.

Within the framework of improving the Master Plan for management, which was also called for by the branch's OPSS system, the branch reorganized trusts that were specialized in various types of operations into integrated trusts that support the construction of pipeline sections completely ready for operation. While improving the Master Plan, it became possible to create a mutually related system of Orgtekhstroys [State Trusts for the Industrialization of Construction Work] under the methodological supervision of VNIIPTekhhorgneftegazstroy, enabling a higher level of organizational preparation of construction operations to be achieved.

For the purpose of design support for flowline construction within the framework of the OPSS system, a unified branch subsystem for organizational preparation for the erection of trunk gas pipelines by integrated flowline pipeline construction groups was created, which includes: a branch design for the organization of construction (OPOS) during the five-year plan period; designs for organizing work on each trunk line (job POR's [work organization plans]); designs for doing the work at the various sections (PPR's [work plans]); and a subsystem for the current control of construction progress.

The branch OPOS balanced the productive capacities of the construction organizations and the use of various types of equipment and labor resources by time interval. Doing so will enable preparatory operations to be performed within the established periods, more stable provisioning and rhythmic operations of the KTP's to be organized, losses of time due to redeployment of production resources between projects to be minimized, and, in the final analysis, the introduction of the gas pipelines ahead of schedule to be provided for. During the five-year plan the OPOS is broken down into detail and revised, based upon the annual programs of the main administrations and associations.

The job POR provides unified equipmental and organizational solutions and a system for controlling construction throughout the whole organizational-structure chain, from the project-ministry level to the route-section level--chief of the flowline group. The assignment of the KTP's to the gas pipeline routes that were adopted in the design calls for various section lengths for each flowline group, depending upon the natural and climatic conditions for construction, taking seasonality into account.

The PPR's for the various gas pipeline sections call for the breakdown and revision of design solutions during construction, to provide more improved mechanisms for uniting the technological and organizational design with current operations planning and control.

WHILE THE OPSS WAS BEING CREATED, THE TRADITIONAL FORMS OF FLOWLINE GROUPS WERE RECONSTRUCTED AND MODERNIZED AND NEW PRODUCTION FORMATIONS WERE ESTABLISHED. This process is being effected gradually because of its complexity and the multiplicity of plans.

At the start of the five-year plan (1981--first half of 1982), flowline groups were formally united brigades and sections of various construction administrations and trusts that were specialized in the fulfillment of various types of work (welding, insulating, earthmoving, and so on). This structure of flowline groups introduced disproportions into the system for construction-progress control and did not completely allow continuous and

synchronous fulfillment of the work by all elements at the maximum possible pace to be provided for, which, as a consequence, affected the final results. The traditional form for flowline groups also did not enable the levers and incentives of low-level cost-accounting to be put fully into use. It was necessary to create an organizational formation, within the framework of which the economic mechanism would stimulate labor-productivity growth to the maximum degree and raise the effectiveness and quality of production operations.

Radical changes in the organization of pipeline construction occurred during the second period of the five-year plan (beginning with the second half of 1982), during erection of the Urengoy-Pomary-Uzhgored gas pipeline. The wide introduction of flowline groups of the new type, oriented to the final construction product, started, in essence, at this time. THE INTRODUCTION OF NEW PRODUCTIVE FORMATIONS, CAPABLE OF ERECTING GAS-PIPELINE SECTIONS IN MOBILE FASHION, WILL ENABLE CONVERSION TO THE TURKEY CONSTRUCTION OF FACILITIES. DOING SO WILL ENABLE A SUBSTANTIAL REDUCTION IN CONSTRUCTION TIME AND A RISE IN THE UTILIZATION EFFECTIVENESS OF CAPITAL INVESTMENT.

One of the main components of the branch's OPSS system was the conversion to intensive methods of management, which called for a further development of cost-accounting relationships, the introduction of brigade forms of organization and of work incentives in the trusts' production formations, and conversion of the flowline group to the section contract. INTRODUCTION OF THE PROGRESSIVE FORM FOR WAGES FOR THE FINAL CONSTRUCTION PRODUCT--THE SINGLE JOB ORDER, WITH THE INCLUSION THEREIN OF THE KTP'S ENGINEERS AND TECHNICIANS AND THE USE OF LARGE-PARTICIPATION COEFFICIENTS--HELPED TO RAISE THE MOTIVATION OF WORKERS TO REDUCE CONSTRUCTION TIME AND TO INCREASE LABOR PRODUCTIVITY AND OPERATING EFFECTIVENESS.

As experience indicates, the formulation and introduction of highly productive flowline groups that are oriented to the final product is an extremely complicated process which requires that a series of wide-scale experiments be conducted under pipeline conditions. This is occasioned by the fact that only during an experiment is it possible to test and work out: new methods and ways for organizing production operations; the principles for forming flowline groups with various organizational structures; a qualitatively new form--phased--of specialization; progressive forms of organization and of motivating the work; and a system of documents that organize and regulate the work of the flowline groups. Conduct of the experiments is one of the chief directions for improving the overall OPSS system. The fact that 21 flowline groups operated under this system from 1982 through 1985 testifies to the scale of the experiments. It is desirable, in order to further develop high-speed flowline construction, to single out within the framework of each production main administration representative flowline groups for the erection of pipelines of both large diameter and medium and small diameter.

By the start of the 12th Five-Year Plan, Glavtruboprovodstroy had basically worked out structures for flowline groups within integrated pipeline administrations and a system of mutually related flowlines with allied subunits, and had created base KTP's for the erection of pipelines of large, medium and small diameters in the various natural and climate zones, with the organization of current planning and control, based upon computer-equipment

resources; and questions of rational workloads for flowline groups during the five-year plan were solved.

In Glavvostoktruboprovodstroy, integrated technological flowline groups--cost-accounting sections--are operating within pipeline-construction trusts. In Glavsibtruboprovodstroy pipelines are being erected by flowline groups that consist of brigades of specialized construction and installing administrations.

With a view to further raising the effectiveness of high-speed flowline construction and development of the branch's OPSS system, branchwide legal and standards documents that will regulate the productive and cost-accounting activity of the KTP's and their mutual relations with superior organizations and allied subunits must be developed. The standards for amounts of machinery and vehicles supplied to flowline construction groups that are engaged in the erection of pipelines of various diameters must be refined. The wide dissemination and introduction of progressive methods for organizing construction work requires that deeper and more constant study and generalization of the experience gained be provided for.

The experience gained in establishing the branch system for organizing high-speed flowline construction and its effective functioning create realistic possibilities for realizing the basic tasks that were set at the June 1986 CPSU Central Committee Plenum--to consolidate them at the pace achieved and, later, to build them up still more. The branch's scientific and design institutes and the main production administrations and trusts should make a creative contribution to the wide introduction and further improvement of high-speed flowline construction and the complete use of its productive potential.

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LABOR MOBILITY OF SEASONAL BUILDERS IN SIBERIA STUDIED

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[Article by Marina Aidrianovna Shabanova, USSR Academy of Sciences, Siberian
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Novosibirsk: "Seasonal Builders in the Siberian Countryside"]

[Text] Further improving the well-being of Soviet people will be carried out to a greater and greater extent through increasing the effectiveness of use of all types of resources, including labor resources. In connection with this it is essential to redistribute part of the labor resources from labor-rich regions of the country to labor-poor ones. What sort of migration is preferable--permanent or seasonal? At first glance the former seems preferable. But this is extremely complicated. For example, we polled inhabitants of the Transcaucasus region, the Northern Caucasus, and the Western Ukraine who were coming in for seasonal work in Siberia; among them, only 17.5 percent expressed a desire to take up permanent residence in Siberia, 11.5 percent could not answer the question, while the remaining 71 percent would not agree to move under any circumstances. There were many reasons given. More than half of those questioned referred to the custom of living in the place where they were born, and the traditions of migration behavior ("It is our custom not to move away from our parents"). One in three individuals responding found the natural-climatic conditions of Siberia unsuitable, while almost one in five individuals indicated an unwillingness of other members of the family to move. Among the reasons holding them back from resettling "completely," respondents also cited the presence of a language barrier, their children's education in national schools, and the poorer social-consumer conditions of life in Siberia.

Consequently, the situation in the field of job placement is acting in the direction of "pushing" the population of the southern republics into labor-poor regions of the country, but because of the fact that these regions are substantially inferior in terms of the level of social development, the population prefers seasonal migration to permanent (that is, complete resettlement).

The labor situation in Siberia creates a fairly broad range for choosing the sector of the economy in which to apply one's labor. But the most suitable sector for seasonal labor turns out to be construction: wages for construction

workers are higher than those in other fields of the economy, the work is of a seasonal nature, and it also corresponds to the professional experience of the seasonal workers (there are strong national traditions of high-quality construction in the Western Ukraine and the Transcaucasus).

The seasonal labor migration of builders into Siberia is of particular importance.

The acceleration of rural construction, of both production facilities and residential and cultural-consumer construction, is an important condition for realizing the food program, and also an important line in strengthening cadres in the countryside, which has great significance for regions of Siberia. In practice, however, the resolution of these tasks frequently relies on inadequate staffing of construction organizations by local workers. In addition, in contrast to urban construction, rural construction is characterized by a high individual proportion of seasonal projects. According to the data of V. V. Mishchenko,² in Siberia two-thirds of the production program is fulfilled between April and September. Thus, the period in which it is most advantageous to carry out construction projects in rural localities and the period of the greatest intensity in carrying out agricultural tasks coincide, which limits the possibility of temporarily bringing workers to construction sites from among kolkhoz members and sovkhoz workers. As a result, for example, in the rural rayon which we studied the interkolkhoz construction organization was only staffed to the extent of 10 percent by construction workers from workers detailed by kolkhozes. In the mobile mechanized columns, the percentage was higher (60 percent), but still far from that planned. Under these conditions, attracting construction workers from labor-rich territories for the spring-autumn period is necessary, and has become widespread.

In characterizing the significance of seasonal labor migration of builders for labor-poor Siberia, let us note the following features.

Currently at least 60 percent of the construction program of the rayon we examined is being fulfilled through the efforts of seasonal builders. Moreover, for the next 5-year period none of the experts predicted a reduction in their role. On the contrary, the opinions of all the experts were identical--Siberia cannot get along without the seasonal migrating builders both for the present time and for the future. The number of seasonal builders is almost 3 times greater than the number of local construction workers.

Most of the experts had a positive opinion of the qualitative composition of groups of seasonal workers. In fact, our study showed that for this group of workers a high degree of versatility is characteristic in their mastery of traditional construction specialties: the average number of construction specialties at the time of the survey was 4.2. Fifty-nine percent of the respondents listed "builder" as their main profession, while for 36 percent the profession of builder was the only specialty. The length of time spent working in construction professions was fairly high--on the average 8.4 years--and exceeded the number of years which are necessary, in the opinion of experts, to establish a qualified construction worker. Most experts believe that the seasonal migrants are people who did not come into construction by chance³ and, as a rule, who are not inferior to local construction workers in terms of their professional training.

In addition, the seasonal migrants have the specialties which are in shortest supply in construction organizations and for which there is the highest turnover of cadres. For example, 69 percent of respondents have the profession of mason, 66 percent are plasterers, 62 percent are concrete workers, 53 percent are carpenters and joiners, 43 percent are painters, 27 percent are finishers, and 23 percent are roofers. More than a third of the seasonal builders can carry out assembly jobs, and a fifth of them can do welding jobs.

The visiting builders, according to the opinions of experts, work 2-3 times as fast as the local builders; they are not held back by the necessity of devoting time to tending a personal subsidiary farm and carrying out other household chores. The average duration of the work day of a seasonal worker is an average of 1.8 times longer than the normative. Furthermore, many workers labor without days off.

The high intensity and duration of labor of the seasonal migrants is combined with the high discipline of the seasonal brigades. Experts point out the strict subordination of the seasonal workers to the collectively decided internal order of the brigade's work, and those who violate it are thrown out.

It is not characteristic for seasonal construction brigades to wait passively for the construction materials and small-scale mechanization resources which they are lacking. In order to avoid idle time, they frequently set out on searches for construction materials, establishing ties with other seasonal workers (most often others of their own nationality) who are working in other facilities, and they go into nearby towns.

Thus, seasonal migration provides labor-poor Siberia with a large quantity of mainly qualified builders who, through the greater duration and intensity of their labor, and also better organization of labor, are carrying out the main portion of the construction program in comparatively short periods of time.

At the same time, seasonal labor migration is also resolving certain social-economic problems of the inhabitants of labor-rich regions, particularly problems connected with the inadequate level of local wages, insufficient to satisfy the needs of a family, and in a number of cases the difficulty a permanent resident has in finding year-round work locally, particularly in his specialty.

Seasonal migration is stimulated above all by dissatisfaction with the size of a family's income. For example, at the time of their first journey for seasonal work 71 percent of respondents were not satisfied, 15 percent not completely satisfied, and only 4 percent satisfied with the size of their family's income. In the families of 44.5 percent of the seasonal workers, the average monthly income per family member without taking into account the seasonal wages in Siberia was no higher than 50 rubles, 69 percent had 75 rubles, and 87 percent had 100 rubles [sic]. In connection with this, for an absolute majority of respondents (95.6 percent) the desire to earn the necessary amount of money was the main motive for traveling to seasonal work. Seasonal labor migration makes it possible to substantially raise satisfaction with the size of a family's income: at the time of the survey, the proportion of builders who were satisfied with the real level of their income was 65 percent.

Consequently, as a result of traveling to Siberia most seasonal workers are realizing their goal and earning the required amount of money. What is this money being spent for? According to the results of the survey, almost one in three seasonal workers is raising money to construct his own house in his place of permanent residence, 13 percent for a car, 13 percent for a set of furniture, and 8 percent are planning to increase their current expenditures, for example to improve their family's nutrition. Almost a third of the builders intend to give material aid to their children or other relatives, including 12 percent who plan this in connection with a forthcoming marriage, while 4 percent of the builders came in order to earn money for their own weddings.

A substantial portion of those questioned (42 percent) also planned to create reserves of money for the future. This was especially important for those who had no possibilities of getting a job in their place of permanent residence on returning from seasonal work, and also for those who had labored at seasonal jobs on various kolkhozes every year while they were of working age and were approaching pension age without having received the right to a pension.

But the possibility of earning money is not the only motive for traveling to seasonal construction jobs. For example, some young builders came from the Transcaucasus region to Siberia in order to get admission to VEZes in Siberia. We also encountered motives connected with romance, and the desire to see new places, choose a new place to live, or travel to seasonal jobs together with relatives (father, brothers, husband).

The fact that seasonal migration repeats itself on a scale which is expanding from year to year testifies that it has turned into an important means of satisfying the social need for the territorial redistribution of labor, and at the same time to an integral element of the way of life of the population of certain southern regions. It is no accident that the group of construction workers questioned had accumulated a fairly long seasonal work record: the average number of journeys taken to seasonal jobs was five. Twenty-eight percent of respondents were coming to seasonal jobs for the first time, 27 percent had worked two or three seasons, 17 percent worked four to five seasons, 15 percent--six to 10 seasons, and 13 percent from 11 to 26 seasons. Almost two-thirds of the respondents not coming for the first time traveled to seasonal jobs every year, while the rest took vacations, most frequently in order to construct a house in their place of permanent residence.

The predominant portion of the individuals questioned (59 percent) intended future participation in seasonal labor migration to construction jobs, 25 percent of respondents had not yet determined their future plans, and 16 percent planned to give up seasonal journeys in the future.

While making it possible to expand the volume and accelerate the times of rural construction in labor-poor regions, and at the same time to raise the standard of living of the population of labor-rich regions of the country, seasonal labor migration to construction jobs at the same time raises a series of new social-economic problems both for rural regions of Siberia and the enterprises making use of the seasonal workers' services, and for the seasonal builders themselves.

One of the problems arising for builders in connection with their participation in seasonal labor migration is becoming seriously overworked. Although the seasonal workers come to seasonal construction with the confirmed aim of intensive labor over the course of a prolonged period of time, and they establish their working conditions independently, one in every six of them cites excessive overwork and worsened health among the important problems and difficulties arising in connection with their seasonal work, and one in 11 is extremely worried about this problem. For the overwhelming majority of respondents seasonal construction is a time of great physical stress. The average work day is over 14 hours long. None of the individuals questioned referred to their seasonal construction work as light work, one in three individuals referred to the work carried out as of average intensity, but for the majority (67 percent), it was heavy (30 percent) or very heavy (37 percent) labor.

Only 5 percent of those questioned did not experience fatigue after the working day, 18 percent were a little tired, but the majority evaluated their fatigue as strong (54 percent) or even extreme (23 percent) ("I don't even want to eat dinner!"). Almost half of the seasonal builders rarely or almost never had time to rest completely before the start of the next working day. Moreover, 45 percent of the total number labored with practically no days off.

Another problem arising for the seasonal builders was that of residential-consumer facilities. Most of the respondents were unperturbed about these everyday difficulties ("We just have to put up with it, we didn't come here for that!"), but for one-tenth of the seasonal workers these difficulties were becoming a problem. More than a third of the respondents were dissatisfied with the organization of meals during the period of seasonal jobs. Since most of them (81 percent) made use of public eating services, the seasonal builders' complaint refers mainly to improving the work of rural cafeterias. One-fourth of the seasonal workers indicated a necessity to expand the menu, improve cooking, provide more fruits and vegetables, and organize meals three times a day.

Prolonged intensive labor requires appropriate organization of life and leisure time. But 25 percent of the seasonal workers were living in buildings poorly adapted for residence (old stores, mobile dwellings [vagonchiki], uncompleted buildings, school galleries, and so forth), while 33 percent of those questioned were dissatisfied with the organization of everyday life in their places of seasonal jobs (the absence of a bath, shower, or laundry facilities in the settlement, which did not allow them to keep themselves in good order after finishing the working day, as well as infrequent changing of bed linen, and so forth).

But perhaps the most acute problems for seasonal rural builders are problems of the labor record. One such problem is that it interrupts a continuous labor record in connection with trips to seasonal jobs. This problem worries one out of four seasonal workers (or one out of three of those who left their place of prior employment in connection with participating in seasonal labor migration). As is well known, Soviet law grants many social privileges and advantages depending on the duration of a continuous work record.¹ At the same time, interrupting a continuous work record is inevitable for the predominant group of seasonal construction workers, since leaving two jobs in the course of a calendar year without valid reasons means that a continuous

work record is not preserved;⁶ participation in nonorganized construction to construction jobs is not regarded as a valid reason.

Taking this situation into account, and also the obstacles to organizing at their point of permanent residence into brigades of a residential-communal facility and other places in which the work is of a seasonal nature.⁸ Workers and employees of such enterprises, during the interval between seasons, take a vacation without pay, which is usually a month's trips to construction jobs. If the workers make a return trip during the following cold season before their departure and return to their place of residence within the established time period, then, although the time in between is not counted toward their continuous work record, it does not constitute an interruption in the work record.

In accordance with existing legislation,⁹ construction (the law applies to sovkhozes by visiting brigades may be applied to seasonal workers who are sent to sum up periods of seasonal work may be extended to seasonal workers just as is done for the workers of boiler and heat stations of the residential-communal facility.

But these decrees do not resolve problems connected with the accumulation of a record of seasonal sovkhoz workers, who still are unable to gain the same privileges in their places of permanent residence (for example, they cannot receive an apartment near their jobs). Furthermore, every worker must make contracts with one and the same sovkhoz which, as a rule, does not occur. Finally, even in the case of working in one and the same sovkhoz, the accumulation of a continuous labor record for seasonal construction workers occurs twice as slowly as for traditional builders, because of the fact that a) seasonal workers are able to put in the yearly working time of the latter group within half a year; and b) on returning from seasonal jobs, most of them continue to labor in their place of permanent residence with no vacation at all (37 percent), a vacation of less than a month (20 percent), or a single month's vacation (30 percent). On the whole, for the absolute majority of seasonal builders working in sovkhozes, despite the large total labor load in the course of the year, a continuous labor record is not maintained.

Still more disadvantageous circumstances are encountered by seasonal workers who travel to seasonal work on kolkhozes: besides the problem of a continuous work record there arises an additional problem: the time spent on seasonal jobs is most frequently not included even in the worker's labor record. This worries one out of three seasonal workers on kolkhozes. Since the total labor record has great significance in gaining the right to a full average pension and other forms of pensions, and also affects the pension calculations in the case of an incomplete work record or with a total duration which is longer than its established total duration by at least one year.

Some seasonal construction workers are trying to solve independently their record problems which have come up for them, which sometimes involves a violation of Soviet law: for example, "simultaneous work" in the place of permanent residence at a distance of 50 kilometers away, or "buying" [pokupka] the labor books, especially for reaching pension age. A number of builders working seasonally on kolkhozes are

to include the time of seasonal jobs in the total labor record, hand over their labor books to workers on seasonal brigades of sovkhozes and are formally numbered among the staff of these brigades.

Certain problems arise for seasonal builders on their return home as well; 35 percent of workers who had previous experience of job placement in their places of permanent residence indicated substantial difficulties in getting a job after returning from seasonal jobs. Since they are not experiencing acute need in their cadres, enterprises of regions well supplied with labor are unwilling to take on seasonal workers, knowing that when the spring-summer period begins they will again rush off for seasonal earnings. One-fourth of the workers did not always manage to get work in the interseasonal period. This problem is especially acute for seasonal migrants from rural Western Ukraine, 38 percent of whom do not always have the possibility of getting a job, Checheno-Ingushetiya, and other labor-rich regions. Some respondents, for example, inhabitants of mountain villages of Dagestan and Azerbaijan are forced, when they return from seasonal jobs in Siberia, to look for new places of seasonal jobs for the autumn-winter period in their own republics. The only seasonal construction workers to avoid these difficulties are those within the kray (20 percent of the total number), who either never leave their jobs at all or easily find another job at the end of the season in connection with the shortage of cadres in Siberia.

Among the individuals questioned, former kolkhoz members were also encountered who had been dismissed from kolkhozes in connection with their annual journeys to seasonal jobs. For the most part these were inhabitants of Ukrainian villages, many of whom traveled to seasonal jobs together with second members of their families. Apart from difficulties with finding work on returning home, they were denied assistance on the part of the kolkhoz in working their personal plots, providing their livestock with feeds and pasturing, construction and repairs of residential homes, and so forth. In a number of farms of the Transcaucasus, departure for seasonal jobs is "punished" by turning off the electricity and other utilities.

Thus, for a fairly large group of seasonal workers there is a problem in combining seasonal jobs in Siberia with more or less stable work in the period between seasons. For some of the respondents (14 percent) this problem was so important that it substantially influenced the probability of their future trips. Another segment of the seasonal workers had become reconciled to these difficulties and was prepared to work at any job during the period between seasons. But this decision leads to underutilization of the labor potential of seasonal migrants in their places of permanent residence, since they frequently possess not only good construction training but also nonconstruction specialties. It is significant that one out of seven seasonal migrants still did not know by the end of the season where and at what job he would work on returning home.

Serious social and psychological problems are connected with the prolonged separation of the seasonal workers from their families. More than 50 percent of the seasonal workers who had some sort of problems were disturbed about the fact that during the period of seasonal jobs their families were having a hard time getting along without them, moreover for every fourth builder this problem was a major problem. Among the difficulties which the families experienced, 51 percent of the respondents cited an increased labor load on the other

members of the family in connection with running the house and personal subsidiary farming, 29 percent mentioned difficulties with feeding the children, and 8 percent mentioned strained relations within the family.

To a question concerning the overall attitude of families toward the seasonal departures of the builders, a majority of the respondents (70 percent) responded that it was positive, since the necessity of seasonal departures was dictated by reasons of a material nature. At the same time, one-fourth of the respondents indicated that their families were against their journeys to seasonal jobs. In this group, 16 percent of the families had a negative attitude toward the seasonal trips from the very beginning, while the remaining had a positive attitude at first and then a negative one. This shift was connected usually either with the achieving of material well-being or with increased difficulties in raising growing children. Many Ukrainian seasonal workers were planning to travel to their seasonal jobs along with their families in the future. Among the number of factors which would decide their future seasonal trips, the family's attitude toward the seasonal departures was in third place, outstripped only by factors of attaining material well-being or declining health.

The high degree of disorganization of seasonal labor migration to construction jobs--only 2 percent of respondents had come at the invitation of representatives of the region--gives rise to the necessity of searching for sites of seasonal labor, which frequently requires up to several weeks. This question is especially urgent for beginning brigades, prompting some of them to resort to the services of outsiders in concluding labor contracts.

The search for more advantageous sites of seasonal labor and the objectively existing difficulties in providing seasonal brigades with construction materials and equipment are leading to the appearance of brigade leaders whose set of obligations consist solely of "command" duties, who combine several seasonal brigades under their leadership. The uncontrollable nature of the internal social and economic relations within seasonal brigades and the occurrence of nonlabor profits in a number of cases in connection with brigade leaders' carrying out the activities of a broker are a very important negative feature of seasonal labor migration.

Thus, seasonal labor migration to construction jobs does not only promote the resolution of the social and economic problems of its participants, but also gives rise to new problems, a number of which, if resolved by the forces of the seasonal workers themselves, lead to negative consequences from the point of view of society as a whole.

Seasonal migration "behaves itself" in the same fashion with regard to the region of seasonal jobs. While aiding fulfillment of the construction program, at the same time it gives rise to new problems in the region.

Among the number of negative aspects of seasonal labor migration to construction jobs, most experts included its negative effect on the economy of the mainlenses arising in connection with the need to pay surplus wages seasonally. The labor situation in the Siberian countryside is so intensive that the visiting builders can choose the place to put in their seasonal labor and, other circumstances being equal, they prefer the establishment which pays more.

seasonal jobs, the load on local work superintendents and leaders increases because the seasonal workers are frequently in pursuit of higher wages at quality. And since they work 14 to 15 hours per day without days off, imposing control over the quality of work actually increases the duration of labor of the leaders of the brigades. They are distinguished for their internal discipline, but at the same time frequently weaken discipline in the brigades, persuading crane operators to carry out the work without permits, and also enticing other specialists, who join the brigades at the beginning of the season. The increased turnover at the beginning of the period of seasonal jobs is undesirable.

Another negative aspect in which some leaders give preference to the seasonal workers is the use of equipment and construction materials, which arouses the resentment of local construction workers. The seasonal workers, "leaving behind for the local builders a number of unfinished jobs, which it is unprofitable to complete, which sometimes means losing good wages during the winter period. Another negative aspect which arises in a number of cases is the rift in the relations between labor by seasonal and permanent builders.

The influx of seasonal builders into a region substantially increases the burden on local affairs, since persons without specific occupations often get into the seasonal brigades. In connection with this the violations of the law in the region increases, and it becomes difficult to detect them.

Seasonal migration does not correspond to the norms of socialist society in the organization of certain seasonal workers in searching out work, which makes it possible for a number of businesses to exploit workers in the area of construction by hundreds of percent, purchasing additional construction materials for the region, and thus disrupting the fulfillment of plan targets.

In conclusion, as mentioned, seasonal migration fulfills extremely important functions in society both with regard to labor-poor but still developing regions, and with regard to labor-rich regions by means of solving the economic and domestic problems of their population.

At the same time it will be necessary to acknowledge that seasonal labor migration is worthwhile on a certain scale. The appeals to "reduce moonlighting [shabashnichestvo] to zero" are unrealistic. It is necessary to solve the problem of seasonal labor migration in our country both at present and from the point of view of the future.

In order to solve the negative aspects of seasonal migration of rural workers, the resolution of a number of its problems is necessary. The substantiating these problems requires the cooperation of various organizations, and, in my view, should proceed in the following manner:

It is necessary to increase the role of the organizational principle in the management of builders. Taking into account the negative aspects of seasonal migration, leaders toward cadres brought in through a system of

an assured recruitment, one of the directions for improving labor relations between the seasonal builders, on the one hand, and agricultural enterprises and construction organizations, on the other, might be for them to conclude long-term agreements extending for a number of years. Such a system would be advantageous to both parties. The labor-poor Siberian kolkhozes and sovkhozes would receive a firm guarantee of the arrival of qualified builders at times previously determined, which is extremely important at the stages of both putting together and carrying out a construction program. The labor load on local area superintendents and foremen would be reduced as a consequence of the fact that builders returning annually to one and the same rayon, as regulars must do, would build with greater quality. For this same reason, the number of uncompleted projects left to local builders would be reduced. The development of stable relations between the two parties would make it entirely advantageous to use the labor of seasonal workers in constructing major projects to be built over the course of several years.

Stable journeys of qualified builders to one and the same place can only be ensured under the conditions that, first, they have an adequate material interest in seasonal migration to construction jobs in labor-poor regions of the country, and, second, that a uniform policy is drawn up and implemented in the area of wages for seasonal labor. Seasonal builders working according to a certain schedule must be put into advantageous conditions in comparison with other seasonal workers, specifically as follows: grant them material, administrative, and other advantages in their place of seasonal jobs (passes and other documents on products such as kolhoz members enjoy). A system of long-term agreements, based on appropriate privileges with regard to seasonal workers, would bring them closer to the status of permanent workers of labor-poor regions. In such a situation, the conditions would disappear which make it unattractive for brigade leaders to obtain non-labor profits, and a number of brigades would no longer have the problem of annually searching for sites of seasonal labor.

It is also necessary to introduce legislation concerning the labor record of workers who travel from labor-rich regions of the country to labor-poor ones. For this group of seasonal workers, it is worthwhile to maintain a continuous labor record even after leaving a job twice in the course of a year, if this migration is connected with participation in seasonal labor migration to construction regions of the country. It is also necessary to discuss the system of controlling the total labor record, which is of particular concern to managers and workers of enterprises, and then on enterprises of the type located in their places of permanent residence.

In the final of discussion, another section of resolving the problem of the labor record might be proposed, which would simultaneously promote the partial payment system of seasonal labor compensation. It consists of granting seasonal workers the right to count with time as an accumulated total and complete daily working normal with local affairs the season, for the period of long-term agreements with organizations and farms of labor-poor regions. An argument in favor of this solution is the fact that because of their prolonged work day and working without days off for the majority of seasonal labor, seasonal workers put in work time which exceeds the average annual labor load of the local builders.

These measures would not only improve the social and economic situation of seasonal builders but also would help to avoid the currently widespread uncontrolled forms of solving the corresponding problems, frequently leading to negative social consequences. Let us note that the proposed directions of improving the process--still in their most general form--refer only to flows of builders from labor-rich regions of the country and should not be extended to regions from which an outflow is less desirable.

A number of social and economic problems of the seasonal migration of builders could be completely solved through the efforts of the enterprises using their labor alone. For example, residential-consumer problems could be solved if, in questions of organizing the everyday life of seasonal workers, the leaders of enterprises would not proceed from the notion that high seasonal wages "make up for everything" and would devote greater attention to the needs of the builders. Problems connected with the increase of violations of the law in the place of seasonal jobs might be reduced on the condition that agreements with seasonal builders be concluded only if they have labor books and the necessary documents.

In conclusion, let us note that work to develop certain visiting brigades in Siberia into permanent residents is not without social and economic foundations. According to the data of our study, 17.5 percent of respondents were in principle not against a permanent move to Siberia. And, although being prepared to relocate is a far cry from actual relocation, the mere fact that it exists deserves serious attention.

1. Seasonal labor migration of builders was studied in one of the rural rayons of Altay Kray. In order to do this, in 1984 227 seasonal builders were questioned (including 50 brigade leaders), which amounted to approximately one-third of their total number. In 1985 leaders of farms and local construction organizations which were using the labor of visiting brigades were interviewed, along with local builders and specialists.

2. Mishchenko, V. V. "Social Problems of Rural Construction" in book: "Sovremennoye razvitiye sibirskogo sela: opyt sotsiologicheskogo izucheniya" [Modern Development of the Siberian Countryside: Experience of Sociological Study], ed. by I. A. Khakhulina. Novosibirsk, 1983, p. 1-3.

3. According to our data, most of the individuals questioned (70 percent) had already worked at some construction job prior to their first trip for seasonal work, moreover each of them had an average of four construction occupations.

4. Among the individuals questioned, 23 percent indicated an absence of any problems whatsoever connected with seasonal migration. Therefore, the data to be cited refer to the 77 percent of seasonal workers who have some kind of problems.

5. For example, in order to receive the right to a paid vacation, 11 months of continuous work at a single enterprise (or establishment) are required. Since the seasonal builders work no more than 6-7 months either in their place of permanent residence or in the place of their seasonal jobs, they

do not enjoy this right. A continuous labor record and special contributions in obtaining financial assistance during temporary disability are indicators of a trade union (8 years of work are required in order to receive a 100-percent benefit), and it also determines the amount of insurance in old-age pensions and other forms of pensions, wage increases in a number of sectors of the economy, the amount of awards for special results of a year's work, and the duration of additional vacations. A worker who leaves an enterprise in order to participate in seasonal migration is automatically removed from the base of people enjoying improved residential conditions at their workplace.

6. "On Further Strengthening Labor Discipline and Increasing the Turnover of Cadres in the Economy." Decree of the CPSU Central Committee, USSR Council of Ministers, and the All-Union Central Council of Trade Unions, 13 December 1979. *SOKRANIYE PRAVITELSTVA SSSR*, 1980, No 3, Article 11.
7. "On the Order of Application of Point 16 of CPSU Central Committee, USSR Soviet of Ministers, and All-Union Central Council of Trade Unions decree of 13 December 1979, No 1,11 'On Further Strengthening Labor Discipline and Increasing the Turnover of Cadres in the Economy.'" Clarification approved by the standing USSR State Committee on Labor and the All-Union Central Council of Trade Unions December 10, 9, 1980. *SVOL*, 1980, *KOMIYETA SSSR PO TRUDU I SOTSIALNOY ZASHCHITE*, 1980, No 10.
8. "On Totaling Up Periods of Seasonal Work in Calculating a Continuous Labor Record." Decree of the USSR Council of Ministers. *IZ PRAVITELSTVA SSSR*, 1983, No 27, Article 118.
9. *Ibid.*; Decree of the USSR People's Commissioner of Trade and People's Commissariat of Agriculture, 30 November 1980, No 8872-401 on the issue of labor power in agriculture. *IZV. VET SSSR*, 1980, No 23-1, p. 741.
10. The problem is that the labor relations between the seasonal workers and the kolhoz are drawn up in the form of a labor contract, and, as a rule, are not accompanied by issuing the seasonal workers a number of the kolhoz. On completing the construction job, the seasonal workers receive certificates attesting to their labor participation in the construction affairs of the kolhoz, without any sort of entries in the labor books. However, even if the labor participation of seasonal workers were recorded in the labor books, a kolhoz labor record, put together during the time of seasonal work, would not have any particular significance for them in figuring their pensions, since the predominant part of respondents (23 percent) work in their place of permanent residence at enterprises or organizations of the state sector.
11. Drawing up such a policy also has independent significance, since it could make it possible to reduce the competition of enterprises for the seasonal workers by paying extra for their labor.

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12255

CSO: 1828/140

INTERSECTOR NETWORK DEVELOPMENT

ROUNDTABLE ON TIKSI REGIONAL TRANSPORT COORDINATION

Moscow VODNYI TRANSPORT In Russian 9 Sep 86 p 2

[Roundtable discussion conducted by VODNYI TRANSPORT correspondent G. Simkin, Tiksi, under the rubric "VI (VODNYI TRANSPORT) Roundtable": "Together for a Single Purpose--Editors' Roundtable with Members of the Coordinating Council of the Tiksi Regional Transshipment Center"]

[Text] The regular session of the coordinating council of the Tiksi Regional Transshipment Center (TRTC) began with a report of the weather forecasters and hydrographers. The sailors, river-fleet workers, major cargo recipients and representatives of science meet every day at exactly nine o'clock in the SVMPF [Northeast Maritime Fleet Administration] building. They determine the critical moments to which the attention of the participants in the transportation process should be devoted so that they can precisely plan operations for the upcoming days.

After the session I invited the members of the coordinating council to a roundtable. I wanted to discuss what had been achieved with the creation of the regional transshipment center and what problems stand before its members. Yu. Lukin, chairman of the council and chief of the Northeast Maritime Fleet Administration, began the discussion.

Yu. Lukin: In creating a coordinating council for the regional transshipment center, we had the aim of uniting the efforts of related-transport workers, liquidating departmental barriers and eliminating backhaul shipments. Some 12 enterprises joined it. Two shippers--SVMPF and the Lena River Shipping Company, scientists--two hydrology bases and an administration for hydrometeorology and monitoring the natural environment, two maritime ports--Tiksi and Zelenyy Iys and three river ports--Izhneyansk, Zyryanka and Belogorsk. And finally, the two principal supply organizations, the Yakutskles [Yakutsk Tiksi] and Yabitskoyemenniteprodukt [Yakutsk Administration of Izhne Zelenyy Iys and Belogorsk Products] associations.

VODNYI TRANSPORT: How does the transshipment center operate and how is its functioning reflected in the delivery of cargo to Arctic points?

Yu. Lukin: We operate according to a unified coordinated plan. That way it can be discerned in advance about what and loading complex like this is

possible, where it is necessary to alter the direction of the work taking weather conditions into account, and on what sections the attention of the partners should be concentrated. For example, it is very difficult today on the Yana route. Maritime and river tonnage is icebound. We agreed with the Lena Shipping Company and the Port of Nizhneyansk that as soon as the situation changes, SVUMF representatives would fly to Yana and there develop an hourly vessel turnaround schedule. It will make it possible to reduce idle time among longshoremen teams and steamship crews. We have interrupted the scheduled work of maritime and river vessels here. In the future the shipment of coal from the Port of Zyryanka will be organized in this fashion.

SVUMF Deputy Chief A. Chernyavskiy: Of course, conflicts do occur. Today, for example, the ships Kola, Kandalaksha and Norilsk arrived in the Port of Tiksi 23 days earlier than usual. They delivered 31,500 tons of cargo. An unusually early delivery of cargo. This was envisaged by the MFF (Ministry of the Maritime Fleet) schedule, and was well known at the Lena River Shipping Company, but nonetheless it tied up tonnage for the harbor basins of the maritime vessels. And the same thing happens every year. The MFF must review the schedule of fleet operations on the fly and attempts to adjust the transloading of the cargo, taking them from the Enistina, Aldan and Indigirka routes. This lack of coordination brings nothing but losses.

Lena River Shipping Company Deputy Chief V. Gotovtsev: We really want to supply tonnage in time, but this situation has been created. A sufficient number of vessels has arrived in Tiksi and on the Yana. I think there will be no disruptions. In our opinion, when there is a high level of river tonnage, it would be expedient to create additional handling capacity in Tiksi to accelerate the transloading of cargo from maritime vessels. We feel that the maritime ports should increase their demands on river tonnage cargo shippers in the area for sending to the Far North only cargo on containers and on pallets. It is time to improve the practice of accumulating and composing cargo according to route.

VODNIY TRANSPORT: USSR Gosplan has approved the operating experience of the Tiksi Regional Transshipment Center. In its resolution it gave a number of important duties to the ministries and departments. In particular, Ministry of the Timber, Pulp and Paper, and Wood Processing Industry M. Buzynin was charged with reviewing, at the collegium, the issue of disruptions in the supply of wood products to consumers of Magadan Oblast, points on the Yana River and for export by the Yakutskles Association. At the same time, the question was posed on the rendering of assistance to the Tiksi Association [Timber-Floating Trust], improving its material and technical standing and creating a timber-floating office there. What has changed since that time?

Tiksi Splavreyd Chief B. Veshnyakov: The association managers have agreed on that all planned timber cargo will be delivered to Tiksi. But they don't tell us. We do not have specialized equipment, tugboats, gridding machines, equipment for collecting dangerous or sunk timber. The conditions for the rafting of timber on the maritime section have still not been worked out. With the creation of the transshipment center, we began to receive assistance from some of our partners in equipment and spare parts. The party, however,

receive the most varied of information from across the whole region, and this allows us to plan better the joint activity of the related-transport workers.

Tiksi Maritime Port Chief N. Zuzulya: Positive experience has undoubtedly been accumulated at the TMO, and this helps us to coordinate joint activities well and speed up the handling and delivery of cargo. There nonetheless exist problems that arise every year but are not resolved. This is first and foremost the delivery of cargo to Tiksi on vessels in assorted fashion. This relates especially to timber, meat carcasses and other general cargo. Markings are often missing. The absence of reliable information on the approach of ships towards the port is a drag on operations. It does not correspond to reality either in time of arrival or in type of product.

Vladimir FOMIN: It must be added that the reluctance of the management of the Yakutsk Administration of RSFSR Goskornefteprodukt [State Committee for the Supply of petroleum products] to create its own representation in Tiksi during the shipping season is a specific drag on the operation of river and maritime transport in the region. It must be charged with the duties of cargo recipient in the transloading of petroleum products from one form of transport to another. What is happening? We received information that this would facilitate unproductive idle time of expensive tankers in the process of immediate settlement of questions that arise and entail an inconceivable waste of time for the bringing of cargo recipients to Tiksi from Khatanga, Anabarsk and Tura-Yana, among others. Couldn't we at least find a common language?

Yu. LUTSENKO: No, nothing has changed. Even today a multitude of representatives fly in here, including from kolkhozes and sovkhoses, that have an exceedingly narrow conception of the receiving and transfer of petroleum cargo both in quantity and in quality. We are continuing to try to get one representative of Yakutsk Goskornefteprodukt [Yakutsk Petroleum Product Supply Administration] here during the shipping season.

Belomorskskiy Port Chief I. Alekseyev: Today when a major tanker fleet is not approaching the Indigirka Bar, our collective can provide for the continued supply of cargoes for handling SVUMF vessels with coal. I would request that the approach of ships from Zelenyy Mys be accelerated. Then all of the cargo could be delivered to all points for 10-15 days. We could come to the aid of the Port of Gushneysk, it is laboring under very intense circumstances. It would be expedient to switch some of the cargo on the Yana route to Indigirka. Our fleet, after transloading, could deliver them quite near to Tiksi, where there is a very acute need for cargo at the Deputatskiy Ore-Transshipment Center.

Yu. LUTSENKO: Very interesting proposals. I think that they must be supported.

G. Gulyaev, regional transportation center planning commission representative: We have an active unified planning commission. Today it is occupied basically with current planning. But an prospective activity for the whole five-year plan must be planned. It is a good thing that unified operations coordinating groups and a unified looker service have appeared in the region. A council of the secretaries of party organizations that are participants in the transportation service is in operation. Issues of comprehensive competition

among labor collectives along the lines of round-robin competition, and being monitored by the Tiksi Basin Trade Union of Maritime and River Transport. But the course of the competition must be more strictly monitored and the results must be summed up on a current basis. Last year not all of the partners presented information, and the transshipment center was unable to participate in the All-Union Competition.

Yu. Lukin, chairman of the coordinating council, noted in summary the results of the roundtable meeting: There are still many problems in the work. It is our common duty to approach their resolution with all determination. I think that the issues raised today will enter the stage of concrete work improving the activity of the regional transshipment center. We all, and I have in mind the partners in the transportation junction, must be aware of the fact that as a result of coordinated activity, all cargo will be delivered to Arctic points.

12821

CNO: 1829/226

INTER-REGIONAL NETWORK DEVELOPMENT

ZHDANOV-YEYSK FERRY SERVICE PROPOSED

MOSCOW VOENNY TRANSPORT in Russian 28 Aug 86 p 2

[Article by VOENNY TRANSPORT non-staff correspondent A. Turbayev: "The Distance Will Be Reduced"]

[Text] Research conducted by the Odessa Institute of Maritime-Fleet Engineers at the request of the Morpasflot [Central Passenger Agency of the Ministry of the Maritime Fleet] All-Union Association confirmed that yes, the organization of a Zhdanov--Yeysk ferry crossing would reduce the journey and the fuel expenditures associated with it, ensure a reduction in truck wear and lessen the distance between Zhdanov and Yeysk by four-fifths.

As is well known, passenger transport has now been partially resolved by the use of coast-type vessels. The flow of cargo and cars and trucks, however, still proceeds on this leg on the land detour around Taganrog Bay through Rostov-na-Donu. The distance is great--400 kilometers. It is easy to discern what an effect this has on the delivery times for freight and passengers and the productivity of the technical operation of transport, as well as to what additional fuel expenditures this leads.

Wouldn't it be better to build a Zhdanov--Yeysk ferry crossing? Maybe it will completely remove these problems from the agenda? Another factor must be added to this--the comfort of transport. This is especially important in summer, when many vacationers, as a rule, travel to Zhdanov.

The Zhdanov--Yeysk ferry crossing is also advantageous from an economic point of view. It opens up the possibility of directing truck freight traffic from the other regions of the Ukraine, Russia and the Caucasus to Krasnodar Kray via Yeysk.

Economists have calculated that the economy of motor-vehicle life and fuel with the introduction of the ferry will total 120,000 tons a year, and the profit from the operation of the ferry crossing when utilized efficiently will be no less than 40,000 rubles.

"Currently," relates V. Bolshakov, chief of the hydrotechnical and engineering structures department of the Zhdanov Maritime Port, "the Yeysk City Soviet of Peoples' Deputies has expressed the desire to accelerate the resolution of issues associated with the construction of a ferry crossing. The organization of a year-round Zhdanov--Yeysk ferry crossing in the 12th Five-Year Plan has been recommended."

RAIL STATION

(UC 624.191.6:624.138

ASPECTS OF BAM'S SEVEN-KILOMETER TUNNEL CONSTRUCTION DETAILED

Moscow TRANSPORTNAYA STRUKTURISTVO in Russian No 7, Jul 84 pp 20-22

[Article by Candidates of Technical Sciences S. N. Vlasov (Glantunnelstroystroy (Main Administration for the Construction of Tunnels and Subways)) and E. P. Nersisyan (VNIITSS All-Union Scientific Research Institute of Transportation Construction)) and Engineer V. A. Bessolov (Bamtunnelstroy (Baysal-Azur Mainline Tunnel Construction Trust)) under the rubric "Tunnels and Metro--BAM: The Severnaya Tunnel": "Overcoming Fractures Using Advance Screens"]

[Text] The BAM tunnels have been built in the Baysal Rift Zone. The Severnaya Tunnel is one of the most complex railroad tunnels in the world in engineering and seismic conditions. It is built at the junction of five rift fractures. The tunnel right-of-way zone includes the Severnaya Fracture with a zone of cracked and fragmented granite 150-200 m (meters) thick.

The tunnel is basically drilled in granite with the presence of a large quantity of tectonic fractures and fragment zones along the right-of-way. The fractures and fragment zones are filled with the products of physical and hydrochemical weathering--so-called loose tectonites, especially clay. The presence of isolated clay soils inclined to thixotropy predetermines a decrease in the stability of the fracture fill with various dynamic effects. These zones are inundated with a considerable hydrostatic pressure. The soil is unstable. The zones vary from 1-2 m to 10-15 m thick.

Surmounting such terrain using ordinary methods with the development of the face in sections presents great difficulties associated with the danger of the work and considerable time expenditures and causes tunneling halts for long time periods. Therefore, experimental test operations were conducted on surmounting fractures with the construction of advance screens of pipe and tunneling under their protection.

A transportation--propelling--drilling pipe drift (BPRD) is drilled parallel to and slightly ahead of the main tunnel with the aid of a mechanized shield and a support unit for transporting and installing soil and installing the lining.

We will deal first on schemes of supporting fractures using a TBM. Two methods have been developed for displacing the screen and freeing up a contracted shield "face" in the fracture.

Thus, one of the fractures was supported simultaneously by tunnel and side drift. In order to extract the rock contracted shield (1) in the body of the fracture along the tunnel right-of-way, a left lower side drift (2) was driven and extended to the opposite rock face of the fracture (Fig. 1). Next an upward working (3) is opened along the TBM axis in the stable rock and a drifting device (4) is constructed in front of the shield on the opposite side of the fracture. A tool for drilling with windings on a crib of beams is installed in the device.

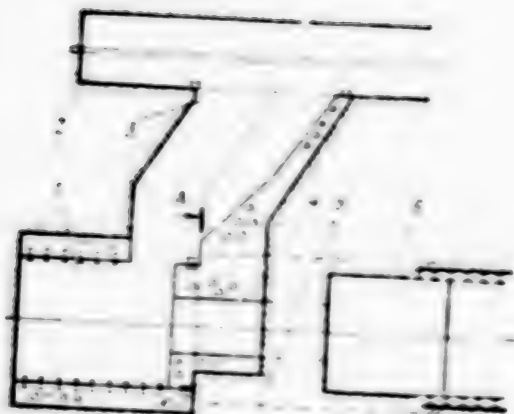
Bore-holes 30 cm (diameter) in diameter and 14 m long are drilled toward the shield in two rows extending to the opposite side of the fracture. Pipe 102 mm in diameter (5) is laid in the bore-holes resting on the installed support. The spacing of the upper row of bore-holes is 30 cm (centimeters) and the lower 31 cm with 20 cm between the rows. Some 45 pipes were installed in all. Support arches of 4-ton jacks were placed below the pipe in the drifts which were then cast in concrete. After the construction of the screen the side drift (4) was tunnelled to the shield ring, it was cleaned and tunnelling began.

In the other fracture the shield face was gripped by a circular mass of unstable rock which made it impossible to operate the travelling unit. The shield was kept "frozen" from the fracture with the aid of an advance screen of pipe as well. The pressure "belts" was dropped from the shield and withdrawn 50 m. Four rings of the lining and two tail-rings were detached from the tunnel-advance system. A screen 2 m long was developed using a blast-hole method for the construction of the screen.

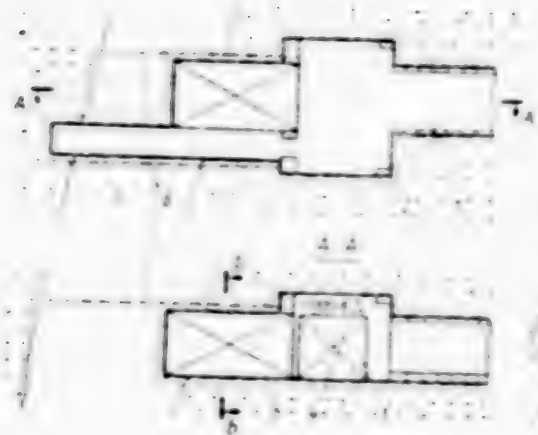
A drifting tunnel (1) was set up in the chamber (2) on bear scaffolding (3) (Fig. 2). Some 30 bore-holes were drilled 20-25 m long and 165 mm in diameter, and pipe 102 mm in diameter (5) was installed in them. The pipes reached the fracture and both ends entered the solid rock. The bore-holes were spaced in two rows: the first row at 30 cm and the lower at 33 cm; the distance between rows was 20 cm. The pipe wall was built in the vault portion of the TBM and along the section of the side bypass drift. The drilling of the bore-holes and the installation of the pipe in them took 65 days. Under the cover of the advance reinforcement, the bypass drift was extended to the shield face (4). The rotor was then cleaned and drift tunnelling was resumed.

The latter method became the standard one in practice and was used for supporting several more fractures by drift.

In addition the main tunnel a pipe screen was employed at one of the first fractures in drilling with casing (Fig. 3). Bear scaffolding (3) was installed for this purpose and a drifting tube (4) was placed in it. Bore-holes 30 cm in diameter were drilled 25 cm apart and screen pipe 76 mm in diameter (5) was installed in them. The pipe was displaced in the vault part of the tunnel and extended to the opposite side of the fracture.



A-A



B-B



Рис. 1

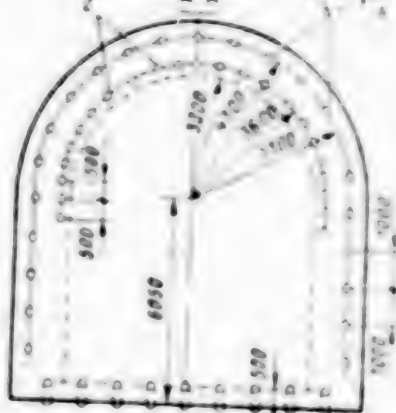
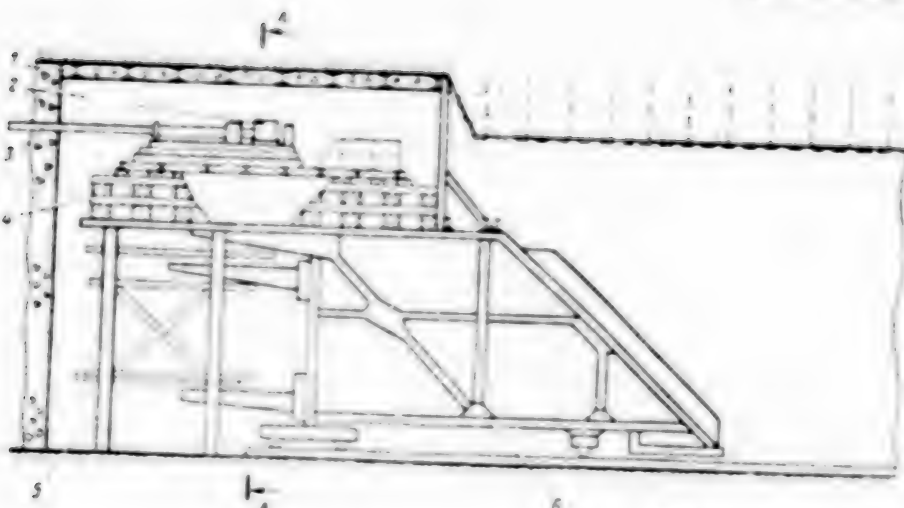


Рис. 2



A-A

A-A

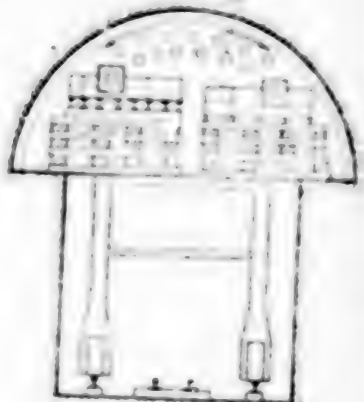


Рис. 3

Bore-holes (1) were drilled along the tunnel outline through which the fracture was cemented before the installation of the pipe screen. Then, for the protection of the screen, a calotte with concrete-arch support was formed, walls were installed and the fracture zone was supported. There were individual intrusions in the construction of the calotte, but the screen remained undamaged.

In order to surmount another fracture by the main tunnel (Fig. 2), steel wires (4) were laid on the shroud of the drilling frame (4) and two steel beams were placed on it. Two tools (2) were placed on the frame and bore-holes (1) were drilled down from above 160 mm in diameter and 20-30 m long. The drilling was conducted by the two tools independently of each other. A support frame (5) was placed under the vertical of the drill frame to eliminate the cantilever.

To the extent that bore-hole drilling and their frame drilling the latter part of the beam crib was dismantled and the frame with the tool was lowered to the necessary level. The upper center bore-holes were drilled in the next phase (one tool mounted on two frames). In order to take on the reaction force that arises in drilling, struts from a stack of beams were installed at the end of the chamber to which the pressure is transmitted from the drill frames.

A total of 47 bore-holes were drilled in the rock. After 20 m in diameter (7) was installed in them. The pipes with diameter at a distance of 0.1 m from one another in the upper row and 0.2 m in the lower row. The pipes traversed the fracture and entered the rock at least 1 m. A cement slurry was injected into the bore-holes and pipes. For the elements equipped with stringed deformation converters were installed in the upper- and lower-row pipes at a distance of 12.5 m from the face (in the fracture zone). Readings were taken on a digital frequency meter and the data was transmitted on a computer, as a result of which the position setting on the plane was obtained at any moment, that is, the whole measuring and monitoring system was an element of the tunneling process.

We will trace the changes in forces in the pipes in the tunneling process under them in a step method. After the first stage at 2.4 m, the upper and lower brace were installed in the rock face where the blast-hole network, the distance from the stope front to the torque sensors was 25 m. A reading taken right after the blast showed that insignificant bending moment and perpendicular forces appeared in the pipes. After the second blast the distance from the sensors and still the tool entered into the fracture zone. Another three arches were installed and something was built, a cement-arch support (1). The bending moment and perpendicular forces remained practically unchanged. The stope of the tunnel increased slightly after the face advanced into the fracture.

Here tunneling took place under the sensors and it was found that perpendicular forces were detected in the upper-row pipes. The tool was 14 m from the face, installed and cast.

Arches of I-shaped steel beams were installed rigidly and assembled along the inner edge of the fracture and concrete-arch support immediately began to move in upward and the pipe screen. The pipes in the fracture were supported therefore they were cast in concrete with the vertical supports that were supports for the screen.

The surface of the concrete-arch support should be on the whole surface of the working in the fracture by the installation of sprayed concrete in this case is possible the employment of arches with a trapezoidal cross-section. Elements does not provide for work in support with the erection of concrete-arch supports with such work any difficulty. The concrete, filling in all the outline, provides for working in concert with the screen support in a stressed symmetric state and is that we can load-bearing capability of the "support-rock mass" system.

Some 43 days after the beginning of tunneling, the fracture with the erection of concrete-arch supports. In the process, the perpendicular forces in the pipes increased observed in the upper row, while the bending moment unchanged and only increased somewhat in the first course of the experiment. The stresses within pipes in megapascals. Thanks to the inclusion of concrete arches the pipes in the technology, there was information on the condition of the structure, about the stability of tunneling operations and facilitating the work on the fracture zone.

The pipes at the screen are being cut by the rock mass on both sides. The soil piled up in the fracture is in a state. During tunneling the level on the face was also reduced. The new fractures horizontal displacements from the sides of the fracture try to increase. Further compressive perpendicular stress, and actual compression fracture also cause a reduction in hydrostatic pressure in consequence of water drainage into the tunnel. The fracture can also cause longitudinal pipe bending, which is an increase to a certain extent in the bending moment fracture tunneling. An increase in bending moment is the additional displacement of the fracture wall as it reaches the opposite side. A sharp growth in length enters the fracture is caused by the vertical movement downward. The further irreversibility of the bending of the tunneling, is associated with the vertical displacement screen that is resting on the concrete-arch support caused by the considerable plasticity in the latter.

The following conclusions may be drawn from the experiments:

A technology for the construction of a advance screen of pipe in surrounding tectonic fracture zones for tunnels and transportation--prospecting--drilling, side shifts has been developed.

The design of the screen has shown itself to be sufficiently reliable. The essential conditions for the execution of the design include: a reliable support for the screen in the rock sides of the fracture and the assalment of an angle for the lifting of bore-holes that eliminates screen deformation during drilling and afterward when the pipe is in the tunnel (side drift).

The technology of tunneling operations and the support of the working should be such that unsupported spans be at a minimum.

The measurement of forces in the pipes, including during the tunneling process, increased the safety of tunneling and demonstrated that the interaction of the screen with the fracture soil has a clearly spatial depiction. The vertical displacement of the soil causes bending moments, while the mutual convergence of the sides causes compressive perpendicular loads.

The presence of the pipe screen and concrete-arch supports has a load-reducing effect on the lining built afterward, which must be taken into account in the planning of permanent structures.

REFERENCE: "Transportnoye stroitelstvo", izdatelstvo "Transport", 1986.

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RAIL SYSTEMS

UDC 629.41.001.7

PROGRESS PLANNED FOR LOCOMOTIVE, RAIL EQUIPMENT SECTOR

Moscow ELEKTRICHESKAYA I TEPLOVOZNAYA TYAGA in Russian No 7, Jul 86 pp 2-4

[Article: "Important Programs for Scientific and Technical Progress"]

[Text] The main trends for the economic and social development of the USSR for the years 1986-1990 and for the period up to the year 2000 call for the following ideas: "Provide for a solution to the critical political and economic problem: accelerate scientific and technical progress in every way possible. Decisively elevate the role of science and equipment in transforming production forces, in moving the economic policies over to the track of universal intensification and in increasing the efficiency of social production."

In this regard, measures have been worked out for the 12th Five-Year Plan, taking future plans into consideration, the realization of which will permit the following quotas to be satisfied within the locomotive service: raise labor productivity by 18-20 percent, increase locomotive productivity by 9-10 percent, raise average train weight by 500 tons, decrease specific consumption of power resources for train traction and production needs by 6 percent and reduce consumption of materials for operation and repair of equipment by 8-10 percent.

The impending, intense work of a collective numbering in the thousands of locomotive service workers, and the striving to fulfill the resolutions of the 27th CPSU Party Congress successfully is being examined behind these figures. Within the locomotive service an industry program and a national scientific and technical program have been affirmed for their realization.

The national scientific and technical program for the years 1986-1990 envisages the development and delivery to the industry of new types of locomotives, the development of new traction engine and diesel engine-generator unit designs, new designer decisions, technological processes, etc.

During these years, series production of the VL85, a 12-axle ac electric locomotive and the VL15, a 12-axle dc electric locomotive (we wrote about these powerful high-speed units in ETT [ELEKTRICHESKAYA I TEPOVAYA TYAGA], #4 for 1985 and #2 for 1986). On individual routes, they are already successfully pulling extra-heavy, extra-long freight trains.

... Also 800000 units of electric locomotives with
... In 1961 it is planned to supply 1000 units
... of such a locomotive, and in 1962, to do some
... more.

... The year plan, as will be designed an experimental
... locomotive rated at 3,000 horsepower per
... with a diesel locomotive rated at 3,000 horsepower
... power transmission. Series production is planned for
... locomotive rated at 3,000 horsepower per unit
... (1961-1962).

... The year plan for 1961-1962, electric locomotive of improved
... rated at 2000 horsepower per unit, 1000 units, other
... electric locomotives, and mechanical locomotives and 100
... units of electric locomotives.

... and technical program will be for development and
... industrial production and operation, production of non-
... equipment and modernization of locomotives and their
... (MRA) [Ministry of Railways] also a plan for repair of
... of electric units and 1000 units. In addition
... which have been worked out.

... The plan has been approved the realization of the under-
... program, including 75 million rubles for the
... of non-standard equipment and 50 million
... modernization. Thus, the total investment allocation
... (1961-1962) is about 100 million.

... The plan contained in the Ministry's program, first of
... that we are expecting an increased 1,000 persons will be
... of 1,000 tons at various points, 10,000 tons
... 10,000 million rubles, more or less, just from
... of industrial production and

... The plan for 1961-1962 in repairing units. Also and
... according to a decision from the 1961-1962 (Planning
... the locomotive Main Administration, Ministry of Railways)
... influence on reducing heavy manual labor, increasing
... the quality of repair work. Expenses are required
... will pay to eliminate the consequences of "overwork"
... along the tractor motor, separator and repair parts
... will be mechanized. In 1961, 500 such units will be
... (1961-1962).

... The plan for 1961-1962 in repairing units. Also and
... according to a decision from the 1961-1962 (Planning
... the locomotive Main Administration, Ministry of Railways)
... influence on reducing heavy manual labor, increasing
... the quality of repair work. Expenses are required
... will pay to eliminate the consequences of "overwork"
... along the tractor motor, separator and repair parts
... will be mechanized. In 1961, 500 such units will be
... (1961-1962).

designed for rolling stock and loadings of electric freight locomotives, as well as passenger rolling stock, passenger locomotives with sulfured fuel, and a controlled loading during the 12th Five-Year Plan.

Locomotive repair plants to carry out the loading of cars on electric and diesel passenger rolling stock and cars of the suburban, although not as yet, it is true, the suburban passenger. This loading system is finally getting a practical solution. The suburban workers are working with the aid of such devices to improve the material conditions of labor, reduce manual labor under complex and difficult conditions and increase labor productivity as well. According to official estimates, incorporation of such unit will permit us to increase productivity 10 percent.

Automation of labor during the overhaul occupies a special place in the overhaul program. Thus, in 1955 we are planning to incorporate 150 special-ized units, for example, for installing and dismantling journal box covers of wheel pairs and turning wheel sets during overhaul leading to move them out from under the locomotive and repair facilities. This year we are planning to use a special equipment for dismantling and re-assembly of cooler [Kholodilnik] sections and for dismantling and re-assembly of the boiler to remove them from the locomotive. Such special equipment will be installed.

A considerable economic savings is anticipated from the use of 100 installations for diesel engine overhaul and air compressors. These units will be installed on the locomotive.

It is necessary to emphasize that these, the basis for progressive industrialization during the 12th Five-Year Plan. It has been specified that, beginning in 1955, we will incorporate special lines for repair of wheel pairs on the TR-2 and TR-3 diesel locomotives, for repair of wheel pairs and journal boxes on electric TR-2, TR-3, TR-4 and TR-5 electric locomotives and for repair of electric and diesel locomotives. During the 12th Five-Year Plan, locomotive repair plants will incorporate these lines. The repair of electric locomotive traction and traction motors. Installation of flow lines for repair of diesel locomotives and diesel engine sections will be started.

In 1955 we plan to start the installation of the railroads for repair of diesel engine sections for TR-2 and TR-3 diesel motors for TR-2 and TR-3 locomotives. We are planning to install moving gantries for disassembly and assembly of electric locomotive tractors without cowcatchers at those depots where it is possible to TR-2 work on the all-Russian, Moscow, Lvov, Western Ukraine and other major railroads, with the aim of making a significant improvement in the conditions and increase the quality of locomotive under-standings. At the same time, we are planning the incorporation of a specialized unit for disassembly and assembly of electric and diesel locomotive wheel and other assemblies, etc.

The continued development of the designs required that we should, in addition to the above, increase the service life and the reliability of these assemblies. In this end, the following [programs] are, the following, as we shall be required to be required by the plan at rolling stock

repair plants and plants for spare parts production within TFS and on the railroad themselves;

replacement of the fiberglass traction drive gear housings for metal ones on VL10, VL10U, VL11 and VL80 electric locomotives;

strengthening the swinging suspension on railbined units of VL10 and VL80 electric locomotives produced by the Tbilisi and Novosibirsk Electric Locomotive Plants;

modernization of the VL80 electric locomotive's undercarriage to permit average speed to be increased from 80 to 100 kilometers per hour;

outfitting VL10 electric locomotive and passenger train wheel pairs with an end-type current lead;

strengthen the traction motors for the VL2M electric locomotives, which will reduce their break-down rate by more than a factor of 2.

A set of operations on electric passenger trains is intended to increase traffic safety and improve passenger comfort. During the five-year plan, about 1500 ER1 and ER9 electric sections are to be equipped with axials for closed sliding outside doors. The first grandiose electric passenger train will have the body support replaced with side-sliding blocks (so-called "skolazny"), the roof of the ER9 will be strengthened, etc.

On a number of TE3 and 2TE10L diesel locomotives we are planning to carry out a comprehensive reinforcement of some assemblies and modernization of type 11B45, 14D40 and 2D100 diesel engines, etc. TE3 and other diesel locomotives are to have improved air-foam fire extinguishers installed in greater quantities.

Important significance is being imparted to the modernization of equipment which increases traffic safety. More than 100 million rubles have been allocated to this end during the current five-year plan.

A system for recording conversations during train traffic organization and shunting operations will be in wide-spread use. The system calls for a recording on magnetic tape of all conversations during train and switching operations of the station duty officer, locomotive engineer, train dispatcher and others connected with traffic. By the end of the five-year plan, we are planning to outfit more than 400 stations and dispatcher sectors with the system.

It is planned to equip the significant locomotive fleet with an indicator of engineer attentiveness based on the parameters of the skin's electric resistance, which is to reduce sharply the number of instances when a train runs through a halting signal because the locomotive's crew is asleep. By the end of the five-year plan, the fleet will be fully be equipped with a device which safeguards against a train running [a signal] involuntarily.

Outfitting locomotives with a device to stop the train automatically when the engineer is incapacitated when the train is being operated by a single engineer [a deadman's brake] is envisaged. Mass introduction is now organized for a device to monitor the engineer's attentiveness based on a light (soundless) signaling system when the train is moving toward a line signal showing 'stop.'

for monitoring the activities of the system. Such systems will be implemented in 1985, and will be installed with them, and at other points on the system. These pieces of equipment will be used to monitor and reduce traffic safety violations.

A more careful approach to training of drivers, the provision of adequate information should be provided by special equipment and methods. On the present system, information of candidates for locomotive drivers is provided by the railway company. It is proposed to improve this information and to make it available everywhere.

It has been planned to put into effect measures to improve locomotive and motorized car repair and maintenance. A computerized system of maintenance of locomotive and motorized car will be implemented in 1985. We are intending to introduce a system of maintenance of the locomotive at certain depots on the railroad network. The system will be used to analyze the work of an engineer's group.

It is known that a computerized system of maintenance of the locomotive and motorized car will be implemented in 1985. We are planning to adopt this system in 1985. The system of maintenance of the locomotive and motorized car will be implemented in 1985. The system of maintenance of the locomotive and motorized car will be implemented in 1985. The system of maintenance of the locomotive and motorized car will be implemented in 1985.

During the current year, the railroad will introduce a new system of braking control system. The new system will be used to control the braking of the locomotive and motorized car. This system will improve the safety of the locomotive and motorized car. The system will be used to control the braking of the locomotive and motorized car. The system will be used to control the braking of the locomotive and motorized car.

Large problems have been solved by the railroad. The railroad has solved the problem of fleet utilization. The railroad has solved the problem of fleet utilization. The railroad has solved the problem of fleet utilization. The railroad has solved the problem of fleet utilization. The railroad has solved the problem of fleet utilization. The railroad has solved the problem of fleet utilization. The railroad has solved the problem of fleet utilization. The railroad has solved the problem of fleet utilization. The railroad has solved the problem of fleet utilization. The railroad has solved the problem of fleet utilization.

With the aim of substantially increasing the national economy, the railroad will implement universal training of engineers and their assistants. The railroad will implement universal training of engineers and their assistants. The railroad will implement universal training of engineers and their assistants. The railroad will implement universal training of engineers and their assistants. The railroad will implement universal training of engineers and their assistants. The railroad will implement universal training of engineers and their assistants. The railroad will implement universal training of engineers and their assistants. The railroad will implement universal training of engineers and their assistants. The railroad will implement universal training of engineers and their assistants. The railroad will implement universal training of engineers and their assistants.

The incorporation of a remote-controlled system for control of locomotives inter-spaced throughout the railroad network will increase the productivity and efficiency of the railroad. The incorporation of a remote-controlled system for control of locomotives inter-spaced throughout the railroad network will increase the productivity and efficiency of the railroad. The incorporation of a remote-controlled system for control of locomotives inter-spaced throughout the railroad network will increase the productivity and efficiency of the railroad. The incorporation of a remote-controlled system for control of locomotives inter-spaced throughout the railroad network will increase the productivity and efficiency of the railroad. The incorporation of a remote-controlled system for control of locomotives inter-spaced throughout the railroad network will increase the productivity and efficiency of the railroad.

The 27th Party Congress of the CPSU determined transport's basic task: the complete, timely, high-quality fulfillment of the needs of the national economy and the populace for transportation and to increase the efficiency of its operation. To solve these problems, it is necessary to increase the productivity of locomotives and rail cars and the average weight of freight trains. The universal incorporation of the achievements of scientific and technical progress and advanced technology in the repair and maintenance of the country's locomotive fleet will be the foundation, the guarantee for carrying out the Party's program. Support in this far-reaching matter comes from our cadres -- the managers who know their jobs well and the locomotive and repair crews who conscientiously fulfill their obligations.

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RAIL SYSTEMS

PLANS FOR YASENEVO, BITTSEVSKIY PARK MOSCOW METRO STATIONS

Moscow TRANSPORTNOYE STROITELSTVO in Russian No 7, Jul 86 p 63

[Unattributed article under the rubric "Chronicle": "At the Scientific and Technical Council" [of the USSR Ministry of Transport Construction]]

[Text] The tunnels and metro construction section discussed the plan for the construction of a section of the Kaluga Line of the Moscow Metro from Teplyy Stan Station to the Bittsevskiy Park Station.

Two new stations--Yasenevo and Bittsevskiy Park--are projected for construction on the section. The section is 3.64 km [kilometers] long.

A longitudinal profile has been planned taking into account the open construction of the section along its whole length. The engineering and geological conditions of the construction are exceedingly complex. The relief of the terrain is traversed by water levels to 33 meters.

The Yasenevo Station is in columnar form from precast reinforced concrete, and Bittsevskiy Park is also columnar with a monolithic ceiling.

The track tunnels are planned to be lined with one-piece sections and individual reinforced-concrete elements. An experimental section is planned using the "wall-in-trench" method.

Construction will last 4 years according to the schedule. The socialist obligations of the Ministry of Transport Construction for reducing the construction times of transport facilities were taken into account in developing the plan. In this regard, a reduction of one year has been achieved compared to TEO [technical and economic substantiation] through organizational measures developed in conjunction with the Moscow Metro Construction Trust and the employment of progressive technical solutions.

The plan for the construction of the Kaluga Line section was approved by the section and recommended for confirmation.

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CSO: 1829/331

RAIL SYSTEMS

BRIEF

IMPROVED STREETCAR MODEL PLANNED--Chelyabinsk, 4 Aug 86--Workers at the Ural-Katavsk Car Building Plant have started developing a new model streetcar. It has been planned to set the new product on the conveyor line by the start of the next five-year plan, but the Ural workers, having set a record for serial production, have bound themselves to move this deadline to 1987. The streetcars with this plant's label have long been running the streets of Leningrad, Tashkent, Kharkov and Tbilisi and many other cities, earning good reputations for their operating qualities. The new car will be 200 centimeters long and will be equipped with modern-day electrical equipment and a radio remote control system noted for a high degree of reliability. [V. Cherepanov, correspondent for PRAVDA][Text][Moscow PRAVDA in Russian 1 Aug 86 p 1] 9/95

LENINGRAD METRO DESIGN WORK--Leningrad--How to accelerate layout of the Right Bank Station now under construction? Specialists from the Metrostroy, the metrostroy and the "Lenmetrogiprotrans" Institute solved this problem. Ordinarily, the designing of a new line is done in 2 stages: first a technical plan is developed, then the working documentation. This time they decided to start production of blueprints immediately following technical and economic validation of construction operations. Although this came with difficulties while doing the design and it requires the precise interaction of all participants in the building, it will permit the sector of the Right Bank Line from Peace Square to Bogatyrskiy Prospekt to be started a full year and a half years early. [V. Yurasov][Text][Moscow GUDOK in Russian 12 Aug 86 p 1] 9/95

BARZAS-ANZHERSKAYA LINE ELECTRIFIED--Barzas--The first start-up section of the electrified sector of Kemerovo Railroad between Barzas and Anzher has been accepted for operation. Kuzbas coal now has yet another entrance to the Trans-Siberian mainline. The relatively short branch line lay through tundra and marsh. Its construction did not come easy--they had to erect more than 80 artificial structures. The general contracting trusts of "Tomsktransstro" and "Kurbasstransstroy" concentrated significant effort and equipment here. Collectives from specialized trust from "Transenergmontazh" and "Translekromontazh" worked right alongside under pressure. Electrical workers made widespread use of a method of large-scale assembly of structures on the ground, due to which they accelerated installation of the contact network. The day shift method was also tried out at the construction site. For this they organized shift settlements with hot-water points and centers of social and political work. Regular traffic was started on the Barzas-Anzher'skaya line, but

construction is not yet finished. It is still necessary to build up several stations, construct supplemental power supply installations and erect permanent living quarters for the operations workers. The new entry to the Trans-Siberian Railroad will shorten the route for coal trains from the Kemerovo and Borozovskiy mines by almost 300 kilometers. [G. Shalakin, GUDOK correspondent] [Text] [Moscow GUDOK in Russian 14 Aug 86 p 1] 9194

NEW SOUTHERN RAILROAD PASSENGER STOP--The new passenger stop on the Bezlyudovka-Bukino sector of the run between Zhikhor and Zvidki on the Southern Railroad has been given the name Borovskaya-Yuzhnaya (code #46397). The stop is 5 kilometers from Zhikhor and 3 from Zvidki. [Text] [Moscow GUDOK in Russian 19 Aug 86 p 2] 9194

SOUTHERN RAILROAD JUNCTION NAMED--The siding at the 101st kilometer on the Zelenyy Kolodez-Kupyansk-sortirovochnyy sector of the Southern Railroad has been named Pervomayskoye-Yuzhnoye. [Text] [Moscow GUDOK in Russian 14 Aug 86 p 2] 9194

SOUTHERN RAILROAD STATION RENAMED--Bulatselovka Station on the Southern Railroad, in the Zelenyy Kolodez-Kupyansk-sortirovochnyy sector has been renamed Shevchenkovoye-Yuzhnoye Station. [Text] [Moscow GUDOK in Russian 14 Aug 86 p 2] 9194

KEMEROVO RAILROAD STATION CLOSES--Izylinka Station on the Kemerovo Railroad is closing for work on reception and distribution of freight by the car or in small consignments being loaded by the car on sidings and private use sites, i. e. according to point #3 of Tariff Handbook #4 [Text]. [Moscow GUDOK in Russian 14 Aug 86 p 2] 9194

NEW BALTIC RAIL FERRY STATION--The new station on the Baltic Railroad to serve maritime ferry crossings between the USSR and GDR has been named Draugiste. It is situated on a branch adjoining the operational Rimkay siding. Since 9 Jan 86 Draugiste Station has been open for receiving and distribution of freight by the car or in small consignments loaded by the car, just on sidings and private use sites, i.e. according to point #3 of Tariff Handbook #4 and for cargo for ferry delivery. Draugiste Station has been assigned code #12820, and #12830 for export. Draugiste Station is 3 kilometers from Rimkay siding, 25 kilometers from the Kretinga transit point and 80 kilometers from Pagegyav. [Text] [Moscow GUDOK in Russian 14 Aug 86 p 2] 9194

CENTRAL ASIAN RAILROAD STATIONS MERGED--In connection with the merger of Vyshka and Nebit-Dag Stations into the single station Nebit-Dag on the Central Asian Railroad, Vyshka Station on the Central Asian Railroad has been removed from Tariff Handbook #4, 1975 edition. [Text] [Moscow GUDOK in Russian 14 Aug 86 p 2] 9194

SOUTHERN RAILROAD STATIONS MERGED--In connection with the merger of Sokovoye and Stoylenskaya Stations on the Southern Railroad into a single station (Stoylenskaya) Sokovoye Station has been removed from Tariff Handbook #4, 1975 edition, with commercial operations being shifted to Stoylenskaya Station. Stoylenskaya terminus Station's location has not changed according to Tariff Handbook #4, 1975 edition. This station adjoins Yezdotskiy Station on the

Subsequently, a second survey in 1992 located a new VMS. The distance from the original station to the second VMS was 8.4 kilometers (5.2 miles). The second VMS was 84 kilometers (52 miles) east of the first VMS. [Source: Bureau of Marine 14 Aug 96, p. 21, 22]

[illegible]

DOI: 10.1002/for

MARITIME AND RIVER SECTOR

DEPUTY MINISTER OF PLANNED MARITIME FLEET ECONOMIC CHANGE

NAME: VOENNY (NAME) In Russian 9 Nov 86 p 2

[NAME interview with V.I. (Name), first deputy minister of the Maritime Fleet: "With a focus on deorganization," 1986, place and time not given]

[Text] Government proposals on the transition, beginning in 1987, to full cost accounting for the subdivisions of the USSR Ministry of the Maritime Fleet were approved at the regular meeting of the CPSU Central Committee Politburo.

On 1986, correspondent asked first deputy Minister of the Maritime Fleet V.I. (Name) to speak about the reorganization which he meant.

[Question] What directed the -- for the sector's transition to full cost accounting?

[Answer] First of all--the economic conditions which have formed in the sector. For example, the average yearly cost of the fixed production capital will increase by almost one-third by the end of the 12th Five-Year Plan. However, in real terms, in their structure, a reduction is specified for the active part-time fleet, which will be reduced by five percent by the end of 1990. Labor resources for transshipment and loading-unloading work will also be reduced. At the same time, the volumes of shipments and loading-unloading operations, and with them, the planned assignments will increase for foreign voyages--by 16 percent, for arrivals--by 7.5 percent, etc. In this way, higher end results must be obtained with fewer resources. This task can be carried out only on the basis of reorganizing the economic mechanism and stimulating the activity of the labor collective with personal incentives such as cost accounting and self-financing.

[Question] What are the basic directions of the reorganization in the sector?

[Answer] The essence of the provisions and measures connected with the transition of the shipping companies and enterprises of the maritime fleet to full cost accounting and self-financing lies in intensifying the mutual interests of the work collective and of each worker and all the administrative organs in solving the main problem: ensuring prompt, high-quality and complete

satisfaction of the demands of the national economy for shipments and raising the work efficiency of maritime transport. On the one hand broader possibilities are opened at the shipping companies and enterprises for retaining stable staffs of highly skilled workers and their material incentive for high production indicators, and on the other--the economic responsibility of not only the directors, but also of the work collectives as a whole for the end results of the work is increased. By forming a wage fund and economic incentive funds in accordance with the norms of the main final indicator, which is the profit and growth rates of the incomes, a direct relationship is established between the work results and the material incentive for fulfilling this work. At the same time the increase in economic incentive funds makes possible a successful solution not only to the problems of raising wages and bonuses, but also to the problems of the social and economic development of the labor collective. Given a stable norm for profit withholding tax to the state budget, the collectives' interest in obtaining larger profits will rise.

[Question] What is being undertaken to increase the independence of the shipping companies and enterprises?

[Answer] First of all, the number of centrally approved enterprises is being cut by over half. Of the remaining ones, the basic ones will be the enterprises of cargo transshipments in coastal navigation, enterprises for import and export, an increase in labor productivity and goals for scientific and technical progress. The profit has become the chief cost accounting indicator of the work results. The shipping companies will obtain the right to conclude agreements with the clients independently for shipment of cargoes, with the determination, which is very important--of mutual material responsibility for fulfillment of the contractual commitments. There is no doubt that increased autonomy will bring greater stability for the cargo work.

Work done in the new way opens broader possibilities to improve the shipping companies' planning of their activity. This will be furthered by broadening the use of economic norms for deductions for the budget and the central fund of the ministry, forming a fund for production development, science and technology and a norm for fund payments, a norm for forming a fund for social and cultural measures and a material incentive fund, and a normative correlation between the increase in the average wage and increase in labor productivity. The fact that the shipping companies and the enterprises gain the possibility of materially stimulating the related workers for their contribution to the achievement of high end results for the work of the transport centers, ports and all the maritime fleet subdivisions is also of great importance.

[Question] Could you not, Vladimir Ivanovich, briefly describe how the transition of the sector to full cost accounting will be implemented?

[Answer] First of all, by intensifying intra-economic accounting and the work of organizing all-round cost accounting from the shipping company and enterprise on the whole down to the ships' crews and collectives of the shipping complexes at the ports, shops, sections and brigades. We have already accumulated real positive experience in the development of brigades with accounting. The collegium of the Ministry of the Maritime Fleet examined and gave

broad support to the experiment... at the Port of Tallinn on including the... and... serving the port, on whom the... brigade collectives. The brigade... Odessa, headed by N. Tyman, hero of... CPSU Congress, achieved high results... This collective was the first in the... plan for 1986 ahead of schedule... a high evaluation to the experiment... port center, where intersectorial... cost accounting brigades have been... all workers, without exception, at... end results of the work of the... of all the participants in this... result. The efficiency of the work... of processing the ships, railroad... considerable--almost 2-fold--... be at the transport center. Now, with... ing, this work seems to be gaining... increasingly widely distributed. The... enterprises are also already... cost accounting, by introducing... as well as on the basis of the target... also be solved with respect to... labor administration and organization... operations groups of ships--

Cost accounting relations are... action and administration between... The role of bank credit is increasing... for the manifestation of... importance of the new order of... Now the enterprises will finance... and modernization and expansion... budget appropriations, through... their work. There is every reason... to full cost accounting will influence...

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CSO: 1829/329

MARITIME AND RIVER FILLS

MORE DEBATE ON DANUBE-DNIEPER CANAL PROJECT

Moscow PRAVDA in Russian 26 Aug 86 p 3

[Article by R. Fedorov: "The Ministry or the Contractors?" the 24 June PRAVDA article noted below appeared in PRAVDA 29 August 1986, pp 74-76]

[Text] Daring feats are accessible to mankind today: to the moon or bending mighty rivers. It must not be forgotten: accomplishments of this nature are, to begin with, extremely not, after all, by chance that even industrially developed England, the FRG or France have not themselves carried out into space.

Interplanetary navigation is, however, a special type of achievements in this sphere are a matter of national pride to speak, therefore, of earthly matters.

It will be a question of plans, the implementation of which requires, not only of "movable" labor and material resources, "movable" ones--permanent appropriation of land, disturbing natural equilibrium over large territories and transforming high relief landscapes, sometimes full of cultural memorials, in almost all today's economic activity as well. Even through their direct somehow or other touch upon the interests of occupying all of the country, for it is by no means a matter of indifference how the nation's money is spent. This is all the more important aspect. The departmental approach is simply inadmissible: this type of projects is not the private "affair" of some officials who have taken contracting on themselves. It is a national project within our rights to demand from the directors of the enterprise a state approach to state, i.e., national problems.

The Danube-Dnieper canal is among projects of this type. The public's interest in it and the striving of specialists of all sectors to discuss the problems arising, to direct the attention of planners to them and to jointly discuss the controversial questions are natural.

An article, "Poperek farvatera" [Across the Channel], on the subject of the Danube-Dnieper canal was published in PRAVDA for 24 June. Its authors, the rector and pro-rector of the Odessa Institute of Maritime Fleet Engineers, professors V. Zagoruyko and P. Nikerov, questioned certain planning decisions which cut off with no future the development, extremely necessary even today, of port facilities on the Black Sea--essentially the commercial gates of the country--and proposed that alternative solutions be discussed.

How did those who were entrusted with planning and constructing the canal respond to the article in the newspaper? The editors received a reply from the UkSSR Ministry of Land Reclamation and Water Resources:

"The article 'Poperek farvatera', in which the authors touch upon problems related to construction in the future of large and complex hydroeconomic projects, was discussed in the UkSSR Ministry of Land Reclamation and Water Resources and at the Ukgiprovdokhoz Institute, which is the master planning institute for the Danube-Dnieper hydroeconomic complex.

"In connection with the depletion of water sources, the further development of industry, agriculture and water conservation for the population in the Ukrainian SSR is possible only through an increase in the drainage of the Dnieper by construction of the Dnieper-Bug hydrosystem and transferring the run-off of the Danube River....

"The proposal of the authors of the article on constructing, instead of a dam at the Dnieper Bug liman, a so-called narrowing of Kinburnskiy Strait to 500 m was examined by the scientific-technical council of the UkSSR Ministry of Land Reclamation and Water Resources with the participation of leading scientists and specialists of the UkSSR Academy of Sciences, VASKhNIL [All-Union Academy of Agricultural Sciences imeni V.I. Lenin], the USSR Ministry of the Maritime Fleet and concerned ministries and departments.

"The scientific-technical council did not recommend that the authors' proposal be further developed, since it does not solve the major problem of ensuring the removal from the Dnieper of 7-8 billion cubic meters of water and using the liman in future as a channel to feed water from the Danube.

"The authors of the article probably did not agree with this decision, and are continuing to try to vindicate their proposal.

"The technical plan of the Dnieper-Bug hydrosystem, in the development of which 54 planning and scientific-research institutes are participating, including locks and maritime fleet projects, was worked out by the Gidroproyekt and ChernomorNIIProyekt institutes and is in the stage of completion and coordination.

"The plan covers various arrangements of the ship throughput structures and marine transport objects, including those proposed by the authors, and a final decision will be made by expert organs of the USSR Ministry of Land Reclamation and Water Resources and USSR Gosstroy.

"The article criticized the decisions on the technical-economic substantiation for the construction of the Lower Dnester hydrosystem and suggests that the fresh-water Dnester be used for construction of a major port, after it has been converted to a marine bay.

"At the same time, the area of the fresh-water part of the liman is reduced by 8000 hectares and the capacity for regulating the drainage of the Dnester and Danube is cut by 200 million cubic meters. In addition, the length of the Danube-Dnieper canal is increased and a pumping station must be constructed for the additional water rise, with total expenditures of about 600 million rubles. It must be said that the tendency has formed in the world, on the contrary, of using marine aquatoria for fresh-water reservoirs and farming.

"The State Board of Experts of USSR Gosplan reviewed the TEO [technical-economic substantiation] in April 1985, and, because of the inadequacy of the substantiations for constructing a major port, proposed to the USSR Ministry of the Maritime Fleet that technical-economic substantiation for its being located in the Dnester liman be drawn up in 1986.

"Therefore, a decision on the site for location of a dam on the Dnester liman is being held back due to a lack of technical-economic substantiation for the expediency of constructing a marine port.

"We ask that this response be published in your newspaper. [Signed] Minister V.N. Tkach."

We have complied with the minister's request. The response signed by him, however, gives food for thought.

It should be noted that, in the article "Poperek farvatera", there is not the slightest doubt as to the idea of the canal itself. On the contrary, its authors stated from the very beginning: "It is difficult to dispute the significance of this construction project and its important role...." Attention was directed to two key points, the planning solution to which touches on the interests of the maritime fleet.

The first is separating the Dnester liman and the Belgorod-Dnester maritime fleet operating at its aquatorium from the Black Sea. The dam which is proposed for construction in the lower section of the liman complicates its work today and eliminates any promise of development. By the way, the authors have here gone beyond the purely fleet framework and, having referred to the quite unsuccessful, and for irrigated agricultural lands dramatic experience in desalinizing the Sasyk liman, expressed doubt as to the expediency of selecting the route for the canal.

The minister left the latter comment unanswered. The former, just as the alternative proposal advanced by the authors on damming the central section of the liman, he rejected with exclusively hydroeconomic arguments and allusions to making the construction more expensive.

A striving toward economy is unquestionably praiseworthy. But an event of recent years comes to mind--also stemming from hydroeconomic practice: the construction of a dam at the sound of the Kara-Bogaz-Gol bay. There too there were the weighty conclusions in favor of cutting off the bay and notions of economy, in accordance with which the dam was constructed as a dead end, without a water throughput structure. The result is well known: the bay began to dry up, leaving chemical production facilities, manufacturing goods needed by a number of sectors of industry, without valuable raw material. The situation had to be set right after the fact.

Judging by the response, the lesson of Kara-Bogaz has not been learned. The ministry and the master planning organ subject to its jurisdiction are not inclined to seek out and work out any sort of alternative, compromise variants.

One more key point touched on in the article is construction at the Dnieper-Bug liman. What is to be done: build a dam with complex hydrotechnical structures or simply narrow Kinburnskiy sound? The authors of the article express regrets that the UkSSR Ministry of Land Reclamation and Water Resources rejected the latter variant, even though it, in their opinion, is the most acceptable "from the standpoint of the Ministry of the Maritime Fleet and a number of other departments, as well as the interests of nature conservation." In the final analysis, however, they do not insist on it, and call only for a critical examination of the arrangement of the hydrosystem with respect to the first variant. As engineers of the maritime fleet, they can be incompetent on hydroeconomic problems, but the locks and flow in the region of the hydrotechnical structures are, as they say, their bread and butter, their specialty. It is their right and even their citizen's duty to make comments on this subject.

In the response it was said that over fifty planning and scientific-research institutes are taking part in the development of the technical plan. But does this fact really make it possible to disregard the substantiated opinion of even, all in all, two skilled specialists? After all, this is precisely the tone of the answer from the ministry: Don't meddle, they say, in another department's business! We, they say, have enough scientists of our own.

Indeed, we have many ministries and departments, but only one state. By the way, out of one--state--pocket are paid both the bonuses for economy in hydrotechnical construction and the forfeits to foreign courts for time lost waiting for a place at a mooring and unloading. The latter is no rarity at the closely packed Black Sea Ports.

We know that there are, in actuality, many scientists at the scientific-research and planning institutes under the jurisdiction of the USSR and union republic ministries of Land Reclamation and Water Resources. Are there too many, though? Is this very reckoning with the Sasyk liman, let us say, on their consciences? According to their scientific substantiation, neighboring fields began to be irrigated with water from the liman, cut off from the sea and desalinized by the "donor"--the Danube. The result: salinization, and large masses of soils going out of operation. The scientists of the Institute of Soil Science of VASKhNIL are now racking their brains over how to return these lands to agricultural rotation.

Incidentally, that very VASKhNIL has a division of hydraulic engineering and reclamation. It includes... not a single scientific-research institute. The scientists here are essentially attributed only to agricultural science, and serve mainly for the department of the Ministry of Land Reclamation and Water Resources. Are not its other mistakes partly connected with this?

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MARITIME AND RIVER FLEETS

MULTIPURPOSE ARCTIC SHIP 'VITUS BERING' SEA TRIALS

Moscow PRAVDA in Russian 27 Aug 86 p 3

[Article by V. Chertkov: "A Hercules for the Arctic"]

[Text] Mooring tests of the multipurpose ship Vitus Bering, designed for automated Arctic sailing, are being completed at the Kherson Shipbuilding Association.

Northern regions, difficult of access, are being developed on an ever increasing scale, and in connection with this, the Arctic fleet is being up-dated. Thus the Kherson shipbuilders are now working toward the Arctic. The Vitus Bering does not need ice breakers--it can unload at an unequipped berth at the shore, or directly in the roads. The vessel is capable of taking on board two helicopters, air cushion platforms and containers, and is equipped to receive on board various machines, through its own operation, with highly productive electrohydraulic cranes.

The new, specialized vessel was created for the conditions of extended sailing, and will go to the most remote islands of the Northern Arctic Ocean. Reserves of water, fuel and foodstuffs will permit it to sail for up to two months. The hull, made of a special strength steel, will withstand the stress of the thickest ice.

The 12,000 horse power Vitus Bering is capable of carrying on board about 10,000 tons of cargo. The vessel, generating a speed of 16 knots, has the following impressive measurements: it is 162 meters long and 22 meters wide. It is propelled by a diesel electric unit. Many advanced technical designs, which make the vessel highly economical, were used in the construction of this "Arctic Supplier".

Good conditions were created for the crew. Single cabins, color television, a bath house, sports training equipment and a library--all these will make it possible to have pleasant recreation in the off-duty hours.

The Vitus Bering is the first domestic ship of this series and will put to sea for trial runs any day now.

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PORTS, TRANSSHIPMENT CENTERS

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PRIMORYE PORT OPERATIONS, PROBLEMS

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[Article by Far Eastern Railroad Vladivostok Division Chief N. A. Marusov:
"The Transport Centers of Primorye Relying on Progressive Experience"]

[Excerpts] The Vladivostok Division of the Far Eastern Railroad provides transportation service for the industrially developed and most heavily populated part of Primorye. This area has shipyards and metalworking and timber-processing plants as well as coal mines, housing-construction combines and transloading and supply bases. The major maritime trade and fishing ports of Vladivostok and Nakhodka are concentrated here, at which freight on direct and combined rail-and-water routes arrives for Kamchatka and the regions of the Far North and the Pacific shoreline. Ocean products, imports and other cargo is dispatched in the other direction. The container transit line on the Japan--Western Europe route has been developed for the shipment of large containers.

The developing economy of the Far East, the opening of through traffic on the Baykal-Amur Mainline and the expansion of foreign-trade contacts make ever greater demands of rail transport in the assimilation of freight shipping and passenger transport. Freight traffic grew by over 23 percent, and passenger traffic by 19.5 percent, in the division over the 11th Five-Year Plan. Operating under difficult conditions, the collective of the division, along with the shippers and recipients of freight, are striving to fulfill the qualitative indicators for the utilization of the rolling stock and raising the efficiency of operations. By way of example, railcar turnover has accelerated by 21.2 percent, average daily productivity of the rolling stock has increased by 45.5 percent and average train weight by 230 tons, while locomotive productivity was raised by 23.6 percent. Labor productivity increased by 20 percent.

Unified Transportation Centers

The employees of the division greeted the CPSU Central Committee decree on labor collaboration of the transport workers at the Leningrad Transshipment Center with particular attention and interest. Following the initiative of the Leningrad workers and based on the accumulated experience of labor collaboration in comprehensive socialist competition, a plan for the

incorporation of this principle, carried with a record for the specific operational features of the various types of transport are now being in the division. Unified transshipment centers were created based on the maritime trade ports of Vladivostok, Nakhodka and Vostochny in 1978. They included the services of the maritime trade ports, the port rail stations, the office of the Soyuzvneshtans (All-Union Foreign Transport) Association, the Far Eastern Trucking Administration and the Vladivostok Division.

Coordinating working groups were organized for specialization and planning the work, made up of managers and specialists of the related-industry enterprises at the centers. Their principal tasks are the incorporation of a new management system for transshipment, the monitoring and analysis of the execution of a unified technology of operations intercoordinated activities and the development and incorporation of a system of moral and material incentives.

The system of organization for the management of the shipping process established in practice at the Primorye centers did not undergo any special changes and justified itself. Informational support was strengthened based on the computer centers created at the ports, the continuous planning of shipping was improved and the capabilities of the railroad computer center were expanded. An automated system for the current planning of shipping on the railroad and in the division is being incorporated.

A strengthening of the technological and organizational basis of center operations ensured the well-defined interaction of various types of transport and increased the responsibility of the related-transport workers for raising the quality of the planning of intercoordinated and coordinated operations. The interrelationships among the transport workers became closer and many issues are resolved in short times right on the spot.

The volume of freight handling at port rail stations increased by more than 12 percent over the 11th Five-Year Plan thanks to the intercoordinated continuous planning of the arrival of railcars and ships, the intensified development of comprehensive socialist competition and the coordinated actions of the related-transport workers. Today about 45 percent of the freight arriving is handled without the use of storage yards, adopted in the "wood-railway" method. This allows an improvement in the utilization of transportation equipment not only on the port rail stations, but also on the stretches leaving the ports. Compared to 1978, the volume of the intercoordinated loading operation at the Vladivostok station has increased by 20 percent, at Nakhodka, 24 hours at Cape Astafyev and 12,5 percent at Vostochny-Vostochny in 1979.

The growth of petroleum-products shipping on direct combined rail-sea routes required the organization of two more unified petroleum-handling transshipment centers in Nakhodka and Vladivostok. Their work is guided by a coordinating center created earlier at the division level.

The foundation of the new form of business collaboration of the railroad workers, employees of the Primorye Administration of Governmental Districts, Committee for the Supply of Petroleum Products and the Primorye Shipping Company is the integrated regulation of tanker-fleet traffic and the working

of rail tankcars in loading and off-loading at the petroleum transloading bases using the work method of the Leningrad transport workers. The forms of the joint operation of related-transport workers at transshipment centers have been improved continuously in recent years. The system for current and future planning became more clearly defined, and information on the arrival of maritime tonnage and tankcars at petroleum transloading bases became more objective and quite extensive in time. A working group, created at the coordinating center, daily resolves issues associated with the transloading of petroleum products and forecasts the supply of tankcars from the loading to the off-loading areas. The availability of free capacity for this or that product and maritime tonnage is taken into account, and the continuous scheduling of transshipment center work for 3 to 7 days ahead is conducted.

Regulating the supply of tankcars to the petroleum transloading bases and the tanker fleet to the ports has made it possible to increase the volume of petroleum-product transloading at the same productive areas. By way of example, the volume of petroleum-product off-loading at the Nakhodka Petroleum Transloading Base alone increased by 24.3 percent in 1985 compared to 1978, and rolling-stock idle time at the off-loading station declined by 15 percent.

With the aim of further improving the shipping of domestic and foreign-trade freight, a coordinating council of the regional transshipment center for the Far East was formed in 1985 to coordinate the efforts of the transport organizations of various departments. It is headed by the chief of the Far Eastern Railroad. Representatives of all of the transport organizations of Primorye Kray were included in the working group of the regional transshipment center. Its sessions consider not only issues in accelerating the handling of transportation equipment, but also of preserving the freight shipped and the railcars themselves and increasing their loads. A program for the development of the transshipment centers of Primorye is now being realized.

Competition Among Related-Transport Collectives

Coordinating the efforts of the participants in the unified transport conveyor required a review of the organizational principles of labor collaboration and a regard not only for the fulfillment of established shipping plans, but also the active assistance of related-transport workers. One form of this collaboration is comprehensive socialist competition of the transportation workers among themselves and the railroad workers with the shippers and recipients of freight. Comprehensive competition, created at the Okean Transshipment Center, was broadly developed at the enterprises and organizations involved with the division.

Taking into account the character and features of the shipping process, the labor collaboration of the railroad workers with the related-transport enterprises has taken shape along three specific groups and levels. In the first group compete the association production collectives of the trade-fleet sailors, fishermen, truckers and railroad workers, in the second are the association collectives of the sailors of the tanker fleet and the railroad workers of Goskomnefteprodukt, and the third is the workers of the 28 stations of the division and the 118 related-transport enterprises and construction sites of Primorye Kray.

Urgent Problems

Practice in the incorporation of unified technological processes, the organization of comprehensive socialist competition and the operation of centers based on continuous planning demonstrated the advantages of this system in resolving issues of raising the efficiency of transport-equipment utilization and accelerating freight delivery. At the same time, certain difficulties are arising in the work of the division collective that have a negative effect on the indicators of rolling-stock utilization. Idle time for railcars in a single loading operation increased last year compared to 1984 at several transport centers of Primorye, as well as on port rail sidings. Analysis shows that one of the reasons for this situation is the irregular arrival of transloading freight at maritime ports and bases. The acceptance of transloading freight at dispatch stations upon presentation without regard for the handling capacity of ports and stations is leading to a growth in railcar idle time on the approaches and awaiting unloading. In our opinion, the increased acceptance of transloading freight in the summer should without fail be coordinated with MPS [Ministry of Railways]. The maritime ports should herein settle on maximum plans and plans for the unloading of transloading freight.

One acute problem that has long been unresolved is the arrival of cars at the Vladivostok and Nakhodka port stations with freight shipped on combined rail-and-water routes that violates technical conditions for packing, packaging and marking for its further shipment by sea to the Far North regions. These cars are not accepted by the trade ports for unloading and require the corresponding correction of packing and markings by the railroad workers. This reduces station flexibility and leads to a reduction in the unloading of transloading freight due to the tie-up of work fronts.

So-called repacking bases and additional staffs of workers, loaders and receivers, as well as loading machinery, equipment etc. are needed to eliminate the commercial flaws at the Nakhodka and Vladivostok Stations. This leads to an increase in shipping cost and a reduction in labor productivity. Furthermore, customer freight delivery times are disrupted, since the cars stand idle awaiting the resolution of legal and commercial issues, and certain freight has to be transferred to other organizations on the spot or established order must be realized. Delays of railcars with valuable freight awaiting the correction of defects facilitates spoilage, and sometimes the theft of freight. The solution of this problem is associated with raising exactingness toward freight shippers for the organization of strict monitoring of the quality of packaging and marking of freight by the shippers at the loading stations.

The stations and railroad divisions also suffer large overall losses due to prolonged unproductive railcar idle time. The systematic arrival of freight intended for direct, combined rail-and-water routes to destination ports that do not handle them has a negative effect on the operation of the port stations of Vladivostok and Nakhodka. Serious difficulties in the operation of the Vostochnyy Transshipment Center are caused by the unpreparedness of the coal complex of the Port of Vostochnyy to handle increased volumes of coal from the

Neryungri Field, as well as the lack of coordination in coal delivery volumes to the port and its removal for export due to the untimely arrival of maritime tonnage through the fault of the USSR Ministry of Foreign Trade.

Improving the shipment planning system requires especial attention. For a long time, one problem for transshipment centers has been the unbalanced nature of the loading and unloading plans assigned by the ministries. Frequently the freight dispatch plans are established many times higher than what actually arrives in the port. This relates first of all to grain cargo. By way of example, for the planned dispatch of grain cargo in September of 1985, grain cars were sent in advance to the division, which were then sent empty to another railroad after prolonged idle time. In October, the actual appearance of sailings for the shipment of import grain was almost two and a half times greater than that envisaged by the monthly plan. By this time, the empty grain cars were no longer at the division, and maximum efforts had to be expended to prepare boxcars in order to fulfill the grain shipping plan. In this regard, the most rapid possible resolution of the question of incorporating into practice the unified quarterly planning of shipping of export, import and transloading freight in the Vladivostok Division, its port stations and at the maritime ports is required, either taking into account or within the limits of the approved yearly freight dispatch plan. This will raise the quality and validity of the planning of the operations of the transshipment centers.

It is well known that the shipment of import grain should be carried out basically in grain cars. Their turnaround zone in our region has been established as no further than the Krasnoyarsk Railroad. At the same time, orders for the shipment of grain are issued for the Kemerovo, West Siberian, Sverdlovsk and South Urals railroads. As a result, fully loaded grain cars are frequently and unproductively standing idle awaiting permission for dispatch to railroads outside of the turnaround zone.

Monitoring of the organization of the routed dispatch of petroleum products at loading stations should also be strengthened according to product type and for their passage onto a traffic route without handling. This would make it possible to eliminate their excessive handling at the destination stations. It is also essential not to allow violations of the GOST (All-Union State Standard) at loading points in the loading of petroleum products (traces of tar, paraffin and a large percentage of water contamination) and the condensed arrival of petroleum products of the same brands.

In order to further improve the quality of mutual information and to raise its reliability, the creation of a unified automated system should be accelerated and current and long-term planning and forecasting with the aid of modern mathematical methods and computers should be improved.

It is no less important to strengthen the handling capabilities of the stations and ports and the sidings of other enterprises and organizations that make up the transshipment centers. By way of example, the volumes of arrival of petroleum products at the Nakhodka Petroleum Transloading Center greatly exceeds the planned capacity of the transloading base, which also leads to the

saturation of the tank cars and their unproductive idle time. The prospects for the further development of the station at Nakhodka-Vostochnaya in the near future are not well-defined with regard to the construction of the second phase of the Port of Vostochnyy, and issues in the incorporation of electrified signaling and switching for the heavily loaded stations of the Nakhodka Transshipment Center are being resolved too slowly.

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